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LECTURE II.[1]

THE CONSTRUCTION AND FUNCTION OF THE AUDITORY SPEECH MECHANISM.

MR. PRESIDENT AND FELLOWS,—In order that the clinical features of auditory aphasia (word deafness) and of its different varieties may be clearly understood it is essential to come to a conclusion, so far as our present knowledge will enable us to do so, with regard to: (1) the position of the auditory centre in the cerebral cortex; (2) the course which the nervous impulses concerned in the hearing of speech sounds take in their passage from the ear to the auditory speech centre; (3) the function of the auditory speech centre; and (4) the manner in which auditory speech symbols (spoken words) are brought into relationship with the associated ("ideational") centres and so with the processes of thought. No one of these points can be said to be definitely settled. Leading authorities on aphasia hold different opinions with regard to each and every one of them.

THE POSITION OF THE CORTICAL CENTRE FOR HEARING.

The sound vibrations which constitute spoken words after entering the ear and being received on the end-organs of hearing stimulate (give rise to) nervous impulses which are conveyed by the auditory nerve and its upward prolongations to the auditory centre in the cerebral cortex.

Experimenters are not agreed as to the position of the auditory centre in the lower animals. Ferrier places it in the upper temporo-sphenoidal convolution. He found that in monkeys "electrical stimulation of the first temporo-sphenoidal convolution was attended with pricking of the opposite ear, wider opening of the eyes, dilatation of the pupil, and turning of the head and eyes to the opposite side—just the phenomena which occur when a loud noise is made in immediate proximity to the ear;" and that destruction of the upper temporo-sphenoidal convolution was followed by permanent deafness in the opposite ear. Schäfer and Sanger Brown found that in monkeys complete destruction of the upper temporo-sphenoidal convolution—indeed of the whole of both temporo-sphenoidal lobes—did not produce total deafness. A. W. Campbell suggests as a probable explanation of these different results that Schäfer and Sanger Brown failed completely to remove and destroy the transverse temporal gyri of Heschl, which he (Campbell) thinks constitute the area of cortex in which simple auditory stimuli are (mainly) received. In man the auditory centre seems undoubtedly to be located in the upper part of the temporo-sphenoidal lobe. The general view is that the auditory centre is situated in the first or upper temporo-sphenoidal convolution. It would also appear that the posterior part (half or two-thirds) of the second temporo-sphenoidal convolution forms part of the auditory speech centre. Further, clinico-pathological observations in man seem to suggest that in the cortical centre for hearing (the auditory centre as a whole) there are separate nervous mechanisms for the registration of: (*a*) ordinary sounds; (*b*) musical sounds; and (*c*) speech sounds.

If it be granted that the auditory centres for ordinary sounds, for musical sounds and for speech sounds, are all situated in, and confined to, the first or upper temporo-sphenoidal convolution, Professor Edgren's case of tone deafness (to which I will refer in detail in the next lecture) would seem to show:[2] 1. That the anterior part of the auditory centre (first temporo-sphenoidal convolution) in both hemispheres of the brain is perhaps the part (or the chief part) of the (main) auditory centre in which ordinary sounds are received and registered and brought into connexion with the other parts of the cerebral cortex.[3] 2. That the middle part of the auditory centre (first temporo sphenoidal convolution) in each hemisphere is probably the part of the (main) auditory centre which is concerned, or which is chiefly concerned, with the reception and registration of musical sounds—i.e., is the "auditory tone centre."

But it is doubtful if the auditory centre for ordinary sounds, for musical sounds, and for speech sounds is confined to the first or upper temporo-sphenoidal convolution. Campbell, as I will presently point out, believes that the lower centre for hearing is situated in the transverse temporal gyri of Heschl. We may term the parts of the main auditory centre in which ordinary sounds and musical sounds are received and registered the *lower* auditory centre. The posterior part of the auditory centre (first temporo-sphenoidal convolution), and probably also the adjacent part of the second temporo sphenoidal convolution (and perhaps a still more extensive area of the temporo-sphenoidal lobe), is undoubtedly the part of the auditory centre in which speech sounds (auditory speech symbols) are, probably after having passed through the lower auditory centre or centres, received, registered, and brought (or chiefly brought) into connexion with other parts of the cerebral cortex.[4]

In most normal individuals the auditory speech centre, or the *higher* auditory centre, as it may also be termed, is chiefly, and in some persons perhaps only, active on the left side of the brain. It is obvious, because of the much larger number of different sound combinations (spoken words) which it has to register and to bring into connexion with so many other parts of the cerebral cortex, that the higher auditory centre (the auditory speech centre) must be a much larger and a much more elaborate mechanism than the lower auditory centre. It seems to me not unreasonable to suppose that auditory speech symbols (spoken words) are first received and registered in the lower auditory centre or centres in which they are heard, so to speak, merely as sounds and combinations of sounds. But whether this is so or not, it is certain that in order that they may be understood (interpreted as speech symbols), i.e., in order that they may be brought into connexion with associated ("ideational") centres in other parts of the cerebral cortex (in which the memories of object-percepts and other percepts are stored), they must reach and pass through the higher auditory centre—i.e., the auditory speech centre.

[1] Lecture I. was published in THE LANCET of Jan. 13th, 1906, p. 71.

[2] In this case the patient, though able to hear, differentiate, and understand both ordinary (non-musical) sounds and speech sounds, was completely tone deaf, as it has been termed. This case seems to suggest (*a*) that a special part of the auditory centre is concerned with the reception and registration of musical sounds; and (*b*) that the auditory tone centre is situated, or chiefly situated, in the middle part of the first temporo-sphenoidal convolution on *both* sides of the brain.

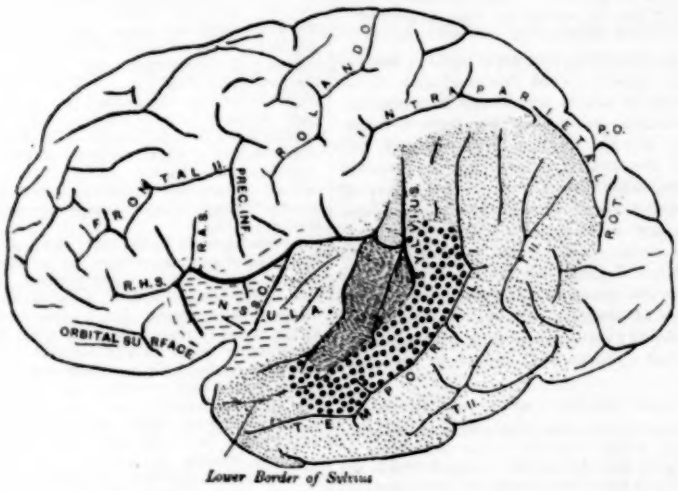
[3] The report produced by the discharge of a pistol, a shot gun, a rifle, and a small field gun can all be easily differentiated by an experienced observer, and in order that they may be differentiated *connexions must be formed* between the cell groups of the auditory centre, in which they are received and registered, and the cell groups in other parts of the cerebral cortex (more especially of the visual centre), in which the visual and other memories of the particular kind of gun the discharge of which the observer knows by experience is associated with a particular report are stored. But whether these connexions are established in the lower auditory centre or in a part of the higher auditory centre is doubtful. The connexion is probably through a higher auditory centre or annexe of the lower auditory centre, as Bastian terms it.

[4] By this statement I do not mean to imply that the portions of the main auditory centre (the cortical centre for hearing taken as a whole), which I have termed the higher and lower auditory centres, are sharply defined and separated one from the other. Possibly the cell and fibre mechanisms concerned with the hearing of ordinary sounds, though chiefly located in one part, may be more or less diffused through the whole of the auditory centre. It seems certain, however, that the cell and fibre mechanisms, in which the memories of auditory speech symbols are stored, are situated, or chiefly situated, in the posterior part (half or two-thirds) of the first and in the adjacent part of the second temporo-sphenoidal convolutions. Further, it is not improbable that the auditory speech centre, if we mean by the auditory speech centre that part of the cortex in which auditory speech symbols are brought into connexion with the other parts of the cortex, may be even more extensive than this and that it may perhaps include a large part of the temporo-sphenoidal lobe. I will return to this point later in speaking of the speech centres and their "annexes"—a term which Bastian has applied to certain areas of the brain cortex which are in close juxtaposition to those portions of the cortex to which the term the speech centres is usually restricted.

In his recently published and most important research, entitled, "Histological Studies on the Localisation of Cerebral Function" (Chapter VI.), Campbell concludes, and to my mind gives very strong grounds for concluding: (1) that the area of cortex laid down for the primary reception of simple auditory stimuli is that which he has mapped out and described as mainly covering the transverse temporal gyri of Heschl; this he terms the audito-sensory area; and (2) that the posterior three-fifths of the free surface of the first temporal gyrus is a second auditory centre specialised for the interpretation and further elaboration of primary auditory stimuli; this area, which forms a skirt for the audito-sensory area, he terms the audito-psychic area (see Fig. 7).

(*b*) Destruction of the left auditory speech centre, though it may produce complete word deafness (which is rarely, if ever, permanent), certainly does not produce complete and permanent deafness to ordinary sounds in either ear and does not necessarily produce tone deafness or auditory amusia. Hence we must conclude, whatever view we take as to the decussation of the auditory nerve (whether we believe the decussation to be complete or incomplete), that ordinary sounds (and musical sounds) are received and registered in some other portion of the auditory centre than that special part which we term the auditory speech centre. We may term this part of the general auditory centre in which ordinary sounds are received and registered, the *lower centre for hearing;* and there must, of course, be a

FIG. 7.



Drawing of left cerebral hemisphere (human) with Sylvian fissure opened out. (After A. W. Campbell.) Showing (1) the audito-sensory area (shaded) confined to the two transverse temporal gyri and not extending on to the insula; (2) the audito-psychic area (large dots) on the free surface of the posterior three-fifths of the first temporal gyrus; and (3) the extent, on the lateral surface of the hemisphere, of the common temporal cortex (small dots). S.C.I. = sulcus centralis insulæ; R.H.S. = ramus horizontalis Sylvii; R.A.S. = ramus ascendens Sylvii; Prec. Inf. = sulcus precentralis inferior; P.O. = parieto-occipital fissure; R.O.T. = ramus occipitalis transversus; T.H. = sulcus temporalis secundus.

THE COURSE OF THE AUDITORY PATH; SEMI- OR PARTIAL DECUSSATION OF THE AUDITORY NERVE.

An analysis of the clinical phenomena presented by cases of disease in man seems to show that the nervous impulses concerned in the hearing, both of ordinary sounds and of speech sounds (spoken words), are carried by each auditory nerve to both auditory centres. The grounds for this conclusion are:—

(*a*) Sudden and complete destruction of the left auditory speech centre results in the production of word deafness[5] but destruction of one auditory nerve (or, what is the same thing, complete deafness in one, in either ear) does not produce word deafness. Consequently, in those persons in whom the auditory speech centre is only active on the left side of the brain, and for the sake of simplicity I am supposing that this is the case, the auditory impressions representing words, which enter by either—say the left—ear, must ultimately arrive at the left auditory speech centre.[6]

(*c*) Complete and permanent deafness in one—the opposite—ear very rarely, if ever, results from a localised lesion in any part of the cerebral cortex. So far as I know there are no facts to show that destruction of either the lower or the higher auditory centre, *in one hemisphere*, ever produces complete and permanent deafness in the opposite ear, as it would necessarily do if the decussation of the auditory nerve were complete. The deafness which results from destruction of the cortical centre for hearing on one side of the brain is usually only partial, and even if it should be complete immediately after the occurrence of the lesion it never, so far as I know, remains complete; it is always in some degree, and almost always, so far as I know, in a lower auditory centre in each hemisphere (l.a. and l'.a', in Fig. 9). That to each of these lower auditory centres auditory impressions pass from both ears (in other words, that the decussation of the upward prolongations of the auditory nerve is partial and not complete) seems to me proved by the following facts:—

[5] The word deafness is, as we shall afterwards see, in many cases incomplete and more or less quickly recovered from, presumably owing to the fact that the auditory speech centre in the right hemisphere is able to take up and carry on the function of the left auditory speech centre which is destroyed.

[6] Reasoning on these facts Lichtheim concluded that the decussation of the fibres of the auditory nerve cannot be complete and that the form of word deafness which is termed sub-cortical (which I term sub-central) "can obviously come into existence only if the irradiations of both acoustic nerves in the left temporal region are broken through." Bastian disputes these conclusions. He states that a semi-decussation of the auditory nerve has not been proved anatomically; he thinks that the decussation of the auditory nerve is complete and that auditory impressions which enter through one—say the left—ear ultimately reach the left auditory speech centre through the corpus callosum; in other words, that they first pass to the right auditory speech centre and thence across the corpus callosum to the left auditory speech centre. I agree with Lichtheim (though not exactly for the reasons which he gives) that the decussation of the auditory nerve is incomplete—in other words, that the auditory nerve on one—say the left—side carries auditory impressions to both auditory centres. As stated above, it is probable, I think, that the nervous impulses which convey, so to speak, spoken words, first pass to the lower auditory speech centres on both sides of the brain and then to the auditory speech centre in the left hemisphere; further, it is certain that sub-central auditory aphasia may be, and probably in most instances is, produced in other ways than that which Lichtheim supposes. I will return to this point in the next lecture.

very large degree, recovered from. The rapid recovery is no doubt due to the fact that the cortical centre for hearing in the opposite hemisphere takes up and carries on the functions of the centre which is destroyed. Now, it could only do so if the decussation were incomplete.

(*d*) Again, we know that this arrangement (semi- or partial decussation) occurs in the case of the optic and of the olfactory and probably also of the gustatory nerves. There is presumptive evidence therefore that the same plan of construction which obtains in the case of the optic nerve and of the olfactory nerve, and probably also of the gustatory nerve, holds good in the case of the auditory nerve.[7]

(*e*) Further, actual observation seems to show that a partial or semi-decussation of the auditory nerves does actually occur. Alexander Bruce, for example, states: "The cochlear root terminates in the anterior accessory nucleus of Meynert (or cochlear nucleus) and the tuberculum acusticum, a narrow nucleus continuous with the former, and lying like a cap on the restiform body. From these nuclei secondary connexions are formed through the corpus trapezoideum and the striæ acusticæ. The corpus trapezoideum sends fibres to the superior olives of both sides, to both posterior corpora quadrigemina, and to the opposite internal corpus geniculatum.[8] This last-named structure is directly connected with the superior temporal gyrus by fibres which complete the central path for hearing. This is further strengthened by connexions of each posterior corpus quadrigeminum with the internal geniculate body of its own side (see Fig. 8). The

FIG. 8.

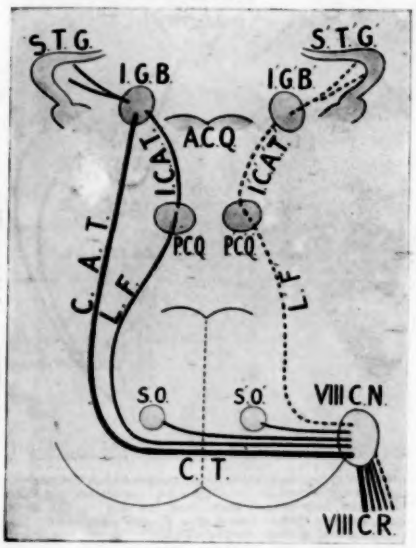


Diagram of the central path for hearing, showing the channels by which auditory impressions reach both hearing centres in the cerebral cortex (after A. Bruce). VIII. C.R. = cochlear root; VIII. C.N. = cochlear nucleus; C.T. = corpus trapezoideum; S.O. and S'.O'. = superior olive, left and right; L.F. and L'.F'. = lateral filet, left and right; C.A.T. = central auditory tract on the left side; P.C.Q. and P'.C'.Q'. = posterior corpus quadrigeminum, left and right; A.C.Q. = anterior corpora quadrigemina; I.G.B. and I'.G'.B'. = internal geniculate body, left and right; S.T.G. and S'.T'.G'. = superior temporal gyrus, left and right.

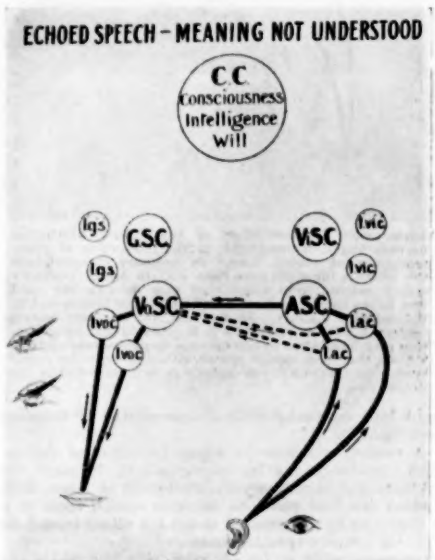
path of the striæ acusticæ is not so well established. They can be followed from the tuberculum acusticum inwards across the floor of the fourth ventricle to the raphé where they pass directly forwards. According to Kölliker they pass round the pyramids of the upper medulla and enter the restiform body of the opposite side. This view still awaits confirmation."[8]

THE FUNCTION OF THE AUDITORY SPEECH CENTRE.

The auditory speech centre seems to be: 1. A centre in which auditory speech symbols (after they have passed through the lower auditory centre, where they are perceived merely as sounds) are received, registered, and brought into relationship by connecting fibres with the associated "ideational" centres; the other centres of the cerebral cortex in which the meaning of words (object-percepts and other percepts) is received, registered, and stored (see Fig. 2, Lecture I.).

2. A centre through which (i.e., from which) the nervous impulses concerned in the production of repeated (echoed) speech pass in order to reach the vocal speech centre (see Fig. 9). This at all events is the view of most authorities. Its correctness is, I think, doubtful; it is doubtful whether it holds good in all cases. It is probable, I think, that in certain circumstances, and perhaps in some individuals at all events, the nervous impulses concerned in the production of repeated (echoed) speech pass through the lower auditory centre (and not through the higher or auditory speech centre) to the vocal speech centre (i.e., along the dotted lines, from l.a.c. and l'.a'.c'. to Vo.S.C. in Fig. 9). This

FIG. 9.



Diagrammatic representation of the course which the nervous impulses concerned in the production of repeated or echoed speech take. In ordinary circumstances the nervous impulses concerned in repeated and echoed speech, after passing to the auditory speech centre (A.S.C.) through the lower auditory centres (l.a.c. and l'.a'.c'.), pass from the auditory speech centre (A.S.C.) to the vocal speech centre (Vo.S.C.), and thence outwards through the lower vocal centres (l.vo.c. and l'.vo'.c'.) to the lips, tongue, larynx, &c., as shown by the solid lines in the figure. But it is possible, I think, that in certain circumstances (i.e., after destruction of the auditory speech centre) repeated or echoed speech may still be carried out through the dotted lines which pass from the lower auditory centres (l.a.c. and l'.a'.c'.) to the vocal speech centre (Vo.S.C.).

point is of considerable importance, as we shall see when I come to describe the points of distinction between the different forms of auditory aphasia.

3. A centre in which (it seems probable, so far as our present knowledge enables us to judge), in most normal individuals and in ordinary circumstances at least, thoughts and ideas are first put into concrete speech form in order that they may be transmitted to the vocal speech centre. The nervous impulses concerned in the production of spontaneous vocal speech seem to pass *directly* from the

[7] I may add that the plan of construction of the cerebral nervous mechanisms connected with vision (i.e., the fact that there are undoubtedly lower and higher centres for vision in the cerebral cortex) is also suggestive that there are both higher and lower centres for hearing.

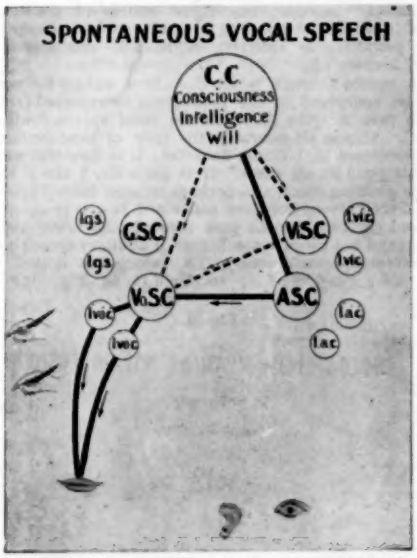
[8] Campbell says the middle geniculate body.

[9] Encyclopædia Medica, vol. ii., pp. 21, 22.

auditory speech centre to the vocal speech centre (see Fig. 10).

4. A centre to which (it seems probable, so far as our present knowledge enables us to judge), in most normal individuals and in ordinary circumstances at least, visual or written speech symbols pass in order that they may be

FIG. 10.



Diagrammatic representation of the course which the nervous impulses concerned in the production of spontaneous vocal speech take. In ordinary circumstances the nervous impulses pass from C.C. to A.S.C. (auditory speech centre), from which they pass through the solid line to the vocal speech centre (Vo.S.C.) and thence out in the ordinary manner. If, however, the auditory speech centre (A.S.C.) is destroyed it is probable that compensation may be effected by the nervous impulses passing from C.C. to the vocal speech centre, either through the visual speech centre (Vl.S.C.) or directly as is represented by the dotted line.

brought into connexion with the associated ("ideational") centres (see Fig. 11).

5. A centre in which (it seems probable, so far as our present knowledge enables us to judge), in most normal individuals and in ordinary circumstances at least, thoughts and ideas are first put into concrete speech form in order that they may be transmitted to (*a*) the visual speech centre and (*b*) the graphic speech centre.

It seems probable, so far as our present knowledge enables us to judge, that in most normal individuals the nervous impulses concerned in the production of spontaneous written speech pass *indirectly* from the "ideational" centres to the visual and graphic speech centres—i.e., through the auditory speech centre to the visual speech centre from which they finally pass to the graphic centre (see Fig. 12). In other words, that thoughts which are to be expressed in written speech are first put into concrete speech form in the auditory speech centre, from which they pass to the visual speech centre, in which they are translated into visual speech symbols, and from the visual speech centre they pass to the graphic (? speech) centre from which they are emitted in the form of the nervous impulses required for the production of the necessary movements concerned in the required written speech (graphic) characters.

It will be noticed that I speak with hesitation and qualification regarding several of the previous headings. It is probable, I think, that in some normal individuals (in persons who are, as it is termed, strong "visuals," and perhaps in many persons after the act of reading has become so well trained as to be, so to speak, automatic) the nervous impulses concerned in reading with understanding and spontaneous writing may pass *directly*, in the case of reading, from the visual speech centre to the "ideational" centres, and, in the case of spontaneous writing, from the "ideational" centres to the visual speech centre and so to the writing centre along the dotted lines in Figs. 11 and 12 (and not indirectly—i.e., through the auditory speech centre along the course of the solid lines in Figs. 11 and 12). If this were so, destruction of the auditory speech centre would not disturb the action of the visual speech centre and would not entail defects in reading and writing (as it usually seems to do). It seems certain that, if the auditory speech centre is destroyed, the visual speech centre can (in many cases at least) be trained to play directly upon the "ideational" centres; and that in this way defects in reading and writing, which may be present in the early stages of cases of word deafness due to destruction of the auditory speech centre, can be compensated. Nevertheless, it seems highly probable that, in ordinary circumstances and in most normal individuals, the auditory, visual, and kinæsthetic speech centres are so closely linked together that the active functioning of any one of them is attended with some change in the functional activity of the others and, *vice versâ*, a lesion, more especially a suddenly developed lesion, in any one of these centres will probably (in most individuals at least) produce some functional derangement in the action of the others, though the degree of that derangement will doubtless vary in accordance with the speech

FIG. 11.

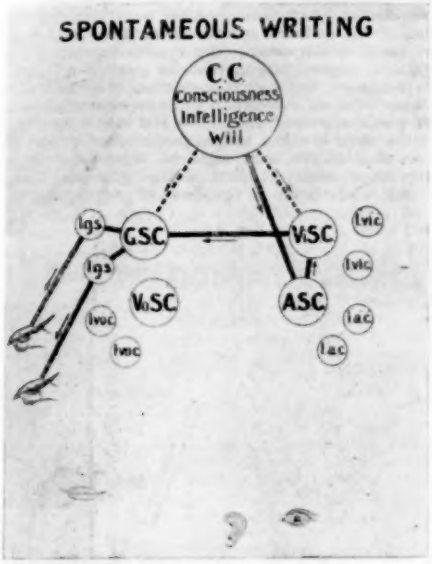
Diagrammatic representation of the course which the nervous impulses concerned in reading with understanding take. The visual impressions pass from the eye to the lower visual centres (l.v.i.c. and l'.vi'.c'.) from which they pass to the visual speech centre (Vl.S.C.); from the visual speech centre the nervous impulses then probably pass to the auditory speech centre (A.S.C.) and from the auditory speech centre to the associated "ideational" centres (C.C.) as is represented by the solid line; but in certain individuals and in some cases of disease, as, for example, where the auditory speech centre or the commissural connexion between the visual speech centre and auditory speech centre is destroyed, the nervous impulses after reaching the visual speech centre (Vl.S.C.) may probably pass directly to the associated "ideational" centres (C.C.) as is represented by the dotted line.

centre which is primarily affected (being greatest, for example, when the auditory speech centre is the seat of the lesion) and with the special functional endowments of the individual (i.e., whether he is an "auditive," a "visual," or a "kinæsthetic").

That the auditory, visual, and kinæsthetic speech centres are so closely linked together that the active functioning of any one of them is attended with some change in the functional activity of the others seems proved not only by the clinical symptoms which result from localised lesions of these centres, but also by the fact that while learning to read and write the child usually in the act of reading letters and words at the same

time speaks them and that many children in the act of writing letters and words, although they may not audibly speak them, make movements of an articulatory kind with the lips and tongue. This would seem to show that in the act of learning to write the whole speech area (the auditory, visual, motor-vocal, and graphic speech centres) is engaged, and that it is only after reading and writing have become so perfected as to be practically speaking automatic that the active and visible functioning of the auditory and vocal speech centres appears to be suppressed. But this suppression is probably only apparent; "silent" stimulation

FIG. 12.



Diagrammatic representation of the course which the nervous impulses concerned in spontaneous writing take. It is probable that in most normal individuals and in ordinary circumstances the nervous impulses concerned in spontaneous writing pass from the "ideational" centres (C.C.) to the auditory speech centre (A.S.C.), then to the visual speech centre (Vi.S.C.), and thence out to the graphic (? speech) centre (G.S.C.), and lower graphic centres (l.g.s. and l.g.c.) to the right hand. But in certain individuals and in certain cases of disease it is probable that the nervous impulses concerned in spontaneous writing may pass directly from the "ideational" centres (C.C.) to the visual speech centre and thence to the graphic speech centre, or perhaps in some cases directly from the "ideational" centres (C.C.) to the graphic (? speech) centre (G.S.C.).

(unattended with visible or audible external results) is probably going on in these centres all the same.

These considerations are of great importance since they afford one explanation of the fact that in some cases of word deafness there are defects in reading and writing (derangement of the action of the visual and graphic speech centres), while in other cases there are no such defects. I say *one* explanation, for another (and in many cases perhaps a more probable explanation) is found in the fact that the auditory and visual speech centres are in close anatomical juxtaposition and connexion, and that a lesion which involves the auditory speech centre in many cases also involves the visual speech centre, or the connexions between these centres.

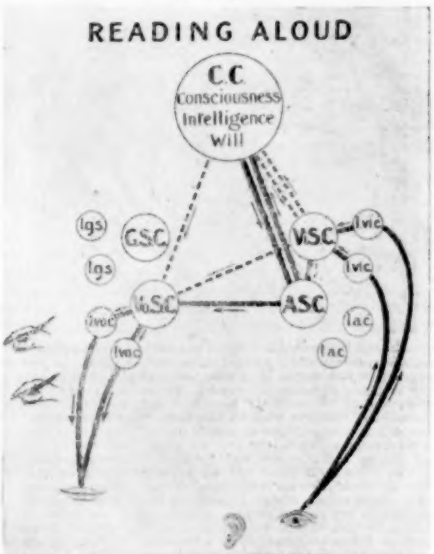
THE EFFECTS OF DESTRUCTION OF THE AUDITORY SPEECH CENTRE.

Now, if the auditory speech centre is possessed of the functions which have just been enumerated, sudden and complete destruction of the auditory speech centre should, in most normal individuals (theoretically, at least), produce the effects enumerated below and, speaking generally, such is the case, but for reasons which have just been indicated and which will be afterwards explained in more detail, some of these defects are in many cases much less marked than one might at first sight and on theoretical grounds expect: 1. Abolition of the power of understanding auditory speech symbols (spoken words) and what, practically speaking, amounts to the same thing, inability to identify (pick out by the aid of the other senses, sight, touch, smell, or taste) an object or written word named. 2. Defects in the production of vocal speech (repeated and spontaneous) (see Figs. 2 and 9). 3. Defects in the power of understanding written speech symbols, in reading, and of vocally repeating written speech symbols—i.e., reading aloud (see Fig. 13). 4. Defects in the production of written speech (spontaneous writing and writing to dictation) (see Fig. 14). 5. Inability to name objects presented to the other senses (objects seen, touched, smelt, tasted) (see Fig. 15).

THE RELATIONSHIP OF THE AUDITORY SPEECH CENTRE TO THE "IDEATIONAL" CENTRES AND THE PROCESS OF THOUGHT.

That the auditory speech centre is a centre in which auditory speech symbols (word percepts) are brought into connexion with the memory pictures (ideas, the object and other percepts) which are stored in the other centres of the cerebral cortex—the "ideational" centres—seems to be confirmed by a study of the development of speech in the child.

FIG. 13.

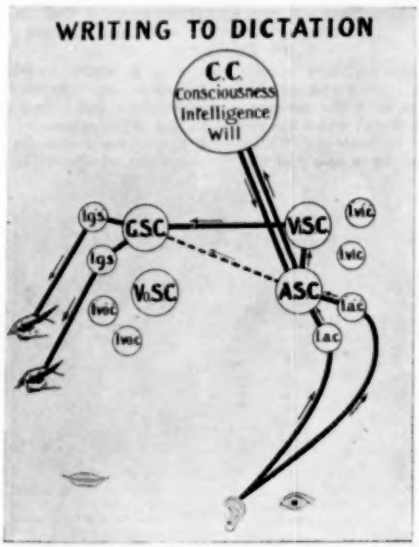


Diagrammatic representation of the course which the nervous impulses concerned in reading aloud take. The nervous impulses pass from the eye through the lower visual centres to the visual speech centre, thence, in ordinary circumstances, and in most normal individuals, they would seem to pass to the auditory speech centre and from the auditory speech centre to the associated "ideational" centres (C.C.), where their meaning is fully understood in consciousness. From the "ideational" centres (C.C.) the nervous impulses then pass to the auditory speech centre and out in the ordinary way through the vocal speech centre and lower vocal centres—i.e., through the solid lines in the figure. If the meaning of the words is not fully understood the nervous impulses after reaching the auditory speech centre pass directly to the vocal speech centre—i.e., without passing to the "ideational" centres (C.C.); or perhaps in some cases directly from the visual speech centre (Vi.S.C.) to the vocal speech centre (Vo.S.C.), through the dotted line in the figure—i.e., without passing through the auditory speech centre.

Long before the infant forms any *intelligent* idea of speech sounds and visual pictures (objects) he is able to perceive noises and visual impressions of light, form, and colour. These elementary auditory and visual impressions are no doubt received and registered in the lower auditory and visual (half-vision) centres. The young child next learns to perceive and intelligently to recognise objects and speech sounds. He is then taught to form associations in consciousness, or associations in consciousness are spontaneously formed (without teaching), between the impressions which reach the brain through these two different

sensory channels. The child sees the object "dog," and his mother names the object "dog" or "bow-wow." When this procedure has been frequently repeated the child comes to associate the auditory speech symbol "dog" or "bow-wow" with the object "dog." And it must be remembered that not only is an intimate connexion formed in consciousness between these two sensory impressions, but—what is, I think, a very remarkable fact when we remember that it applies to the most intricate processes which take place in the marvellously intricate nervous mechanisms of the brain—an actual physical connexion—a nerve connexion is

FIG. 14.

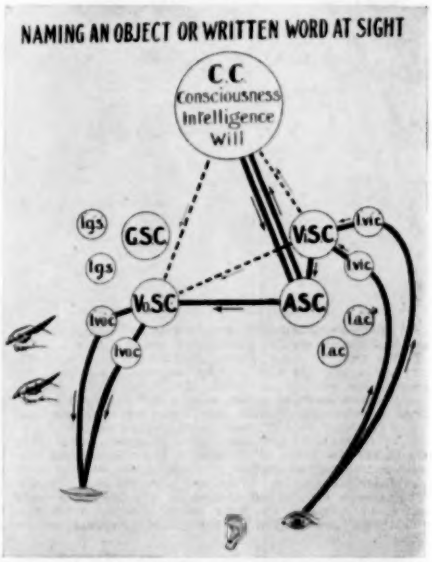


Diagrammatic representation of the course which the nervous impulses concerned in writing to dictation take. If the meaning of the words is understood the nervous impulses after reaching the auditory speech centre (A.S.C.) pass to the associated "ideational" centres (C.C.); then from the "ideational" centres back to the auditory speech centre; thence to the visual speech centre (Vi.S.C.) and from the visual speech centre to the graphic speech centre (G.S.C.) and out in the ordinary way through the lower graphic centres to the right hand. If the meaning of the words is not understood the nervous impulses may, after reaching the auditory speech centre, pass to the visual speech centre and thence out to the graphic speech centre, i.e., without passing to the "ideational" centres (C.C.), or perhaps in some conditions of disease directly from the auditory speech centre (A.S.C.) to the graphic speech centre (G.S.C.), as is represented by the dotted line in the figure.

formed between the cell group in the higher auditory centre which represents the word "dog" or "bow-wow," and the cell group in the visual centre which receives and registers the image of the object "dog." After frequent repetition the connexion becomes so perfect, the connecting tracts so well worn, that whenever the child hears the sound (word) "dog" or "bow-wow" he looks about for, and fixes his eyes upon, the object—the dog; or, if the object is not present, he mentally pictures to himself (i.e., thinks of) the object—it raises up in the mind the memory or mental picture of the object "dog." In other words, the stimulus which is in this case primarily received by the cell group in the auditory centre which represents the sound (word) "dog" flows over from the auditory speech centre to the associated cell group in the visual centre and excites the visual memory of the object "dog." This is the basis of all intellectual operations—the association of ideas. So, too, whenever the child sees the object "dog" the stimulus flows over from the cell group in the visual centre, which receives it, to the associated cell group in the auditory speech centre in which the auditory speech symbol "dog" or "bow-wow" is represented; this cell group is in its turn stimulated and a memory of the word (name) "dog" or "bow-wow" is excited—the child thinks of the auditory speech symbol, the name "dog" or "bow-wow." The two centres (the visual centre and the auditory speech centre) are in this way concurrently educated and taught to play one upon the other. By this process intimate connexions are formed between cell groups in these two great sensory centres (the visual and the higher auditory centres) and the names of various objects are taught and learned. In other words, the auditory speech symbols are not only brought into conscious relationship with the ideas which they symbolise and represent but the cell groups in the auditory speech centre in which the auditory speech symbols are received and registered are brought into anatomical and physiological relationship with the cell groups in the visual centre in which the visual impressions to which they correspond—i.e., which they symbolise—are received and registered.

The acquisition of attributes.—After a certain degree of education of the auditory speech centre, the visual centre, and the vocal speech centre (the centres concerned in the recognition of objects and movements (certain actions), in the comprehension and in the production of certain of the speech sounds (nouns and certain verbs expressive of certain actions) which represent the objects and visible movements which have been brought into organic cohesion and conscious association) has been acquired, information derived from the other sensory cerebral centres (the education of which has also been in process of development) is

FIG. 15.



Diagrammatic representation of the course which the nervous impulses concerned in the naming of an object or written word at sight take. In naming a written word at sight the nervous impulses pass from the eye to the lower visual centres and thence to the visual speech centre (Vi.S.C.), from which they pass to the auditory speech centre (A.S.C.), then, if they are understood, they pass to the associated "ideational" centres (C.C.), from which they pass back to the auditory speech centre (A.S.C.) and thence out to the vocal speech centre (Vo.S.C.) in the ordinary manner (through the solid lines in the figure). If, however, the written word is not understood the impulses after reaching the visual speech centre (Vi.S.C.), and passing to the auditory speech centre (A.S.C.) pass directly to the vocal speech centre (Vo.S.C.) without passing to the associated "ideational" centres (C.C.); or perhaps in certain circumstances directly from the visual speech centre (Vi.S.C.) to the vocal speech centre (Vo.S.C.), as is represented by the dotted lines in the figure. In naming an object (not a written word) at sight the nervous impulses after reaching the lower visual centres pass to a higher visual centre (not represented in the diagram), and from this higher visual centre they pass to the auditory speech centre (A.S.C.) and thence out in the ordinary way.

brought into the connexion and the child learns to associate certain qualities or attributes with the objects which he recognises by the eye and the names of which he has come to recognise by the ear. He is taught, for example, to associate such speech sounds (adjectives) as

"sweet" and "nice" with objects, such as sugar, which taste sweet and which he likes. In other words, the conscious impression which is generated in the cell group in the gustatory centre, which is stimulated by the application of the substance sugar to the end-organs of the nerves of taste, is brought into relationship with the cell group in the auditory centre which is stimulated by the sound (word) "sweet" or "nice." As the child's experience enlarges he comes to associate, and is taught to associate, the terms (words) "sweet" and "nice," not only with the taste of sugar, but with everything which he likes—say with "papa," "mama," &c. He also learns to form contrasts, to compare such substances as sugar and salt and such terms as *nice* and *nasty*. In this way, through the different senses and through the cerebral connexions which are formed between the different sensory centres, the child gradually learns (acquires) a large number of different attributes (adjectives), such as *sweet*, *bitter*, *nice*, *nasty*, *good*, *bad*, *soft*, *hard*, *rough*, *smooth*, and so on.

It is doubtful whether—when the attribute has acquired a sufficiently wide meaning—the stimulation of the cell group, say in the gustatory centre, in which the memory picture of the (sweet) taste of sugar was originally implanted and stored (which results from the overflow, so to speak, from the cell group in the auditory speech centre corresponding to the word "sweet"), is sufficiently powerful to excite a conscious sensation—i.e., a memory of a sweet taste. The connexion between the two cell groups in the auditory speech centre which represent the terms "sweet" and "sugar" must, of course, be much more powerful, for—although few persons, if any, feel a conscious gustatory sensation (taste) of sweetness when either the one or the other term (*sweet* or *sugar*) is thought of[10]—whenever we talk of "sweet" we are prone to (inclined to) think of sugar—the type of a sweet thing, the original thing with which we associated the sensation of sweetness, and *vice versâ*.

When the word "*sweet*" calls up in the mind the memory of sugar the nervous process is probably as follows. The cell group in the auditory speech centre representing the word sweet is first stimulated; the stimulation then passes to the closely associated cell group in the auditory speech centre, the term or word sugar; and then if the ideas (gustatory, visual, &c.) which represent the thing sugar are called up in the mind the stimulation passes to distant cell groups in the gustatory, visual, and other cortical centres in which the ideas which go to form the complex mental picture or idea of (in this case) the thing sugar are represented and stored. In this way connexions may be formed between cell groups in the auditory speech centre and cell groups in the other sensory centres in the cerebral cortex. The child, for example, learns to associate with the auditory symbol or word percept "orange," certain visual appearances representing the form, size, shape, and colour of the orange, and certain gustatory, olfactory, tactile, and kinæsthetic impressions representing the taste, smell, feel, and weight of the orange. When this process is completed the raising up in the mind of the auditory speech symbol—in other words, the stimulation of the cell group in the auditory speech centre representing the word "orange"—raises up in the mind, or may raise up in the mind, all the attributes of the orange which the individual has by experience learned or acquired, the memory pictures of which have been stored (imprinted) in other parts of the cerebral cortex. In other words, there is an overflow from the cell group in the auditory speech centre which represents the auditory speech symbol or word percept "orange," through the connecting fibres, either directly or indirectly, to many different associated centres in the cerebral cortex; and the stimulation of the associated cell groups in these different centres is attended in conciousness with the revival of the memory pictures of the different qualities or attributes of an orange with which the individual has by previous experience become acquainted.

The process of learning to understand speech sounds (spoken words) seems to consist, so far as the physical side of the process is concerned, in the formation of connexions between (*a*) the cell groups of the auditory speech centre, in which the word percepts are stored, and (*b*) the cell groups of the other centres of the cortex, in which the object and other percepts which represent the ideas which the word percepts (names) symbolise are stored. In the case of highly complex abstract ideas the process is necessarily much more elaborate than the simple process which I have just described. Further, it must be remembered that in the auditory speech centre itself connexions are formed between different cell groups representing the synonyms of different word percepts which in the experience of the individual represent the same idea or ideas. Taking the simple illustration, for example, which has been already given, there must obviously be in the auditory speech centre of the child two cell groups corresponding to the words "dog" and "bow-wow." Again, to give another example, the auditory word percepts "sweet," "nice," "agreeable," "pleasant," which symbolise or which may symbolise the same idea, must all have cell groups in the auditory speech centre which are in intimate anatomical and physiological (physical) connexion one with another. Again, the same speech sound may have entirely different meanings in accordance with the context (the other speech sounds with which it is associated), and the intonation which is given to the sound—witness, for example, the word "dam" in the sentences, "The *dam* in the river is, &c.," "*Damn* that boy," "The river was *dammed*," "Go and be *damned*." These considerations clearly show that the auditory speech centre must be a very elaborate nervous mechanism.

According to the view which has just been stated, the memory or mental pictures of auditory speech symbols or names (word percepts) of objects, attributes, ideas, &c., are stored in the auditory speech centre, but the memory pictures of *the ideas which these names represent* are not raised in the mind by mere stimulation of the nervous mechanisms (cell groups) in the auditory speech centre, in which the memory pictures of the auditory speech symbols (words) are stored. The revival in consciousness of the memories of the ideas which the word percepts symbolise necessitates an overflow of nervous impulses to, and the stimulation of, the corresponding cell groups in the associated ("ideational") centres, which are situated in other, and it may be very distant, parts of the cerebral cortex. It, of course, does not necessarily follow, although this no doubt may be the case, when we hear the name "orange" and we afterwards think of the different attributes or qualities of an orange, that all of the nervous impulses pass *directly* from the cell group in the auditory speech centre, representing the word "orange," to the associated cell groups in the other (ideational) centres in which the memory pictures of the qualities or attributes of the "orange" are stored. The process may be, and probably in most instances is, an indirect one. The word "orange" may raise up the visual picture (shape, size, colour) of an orange and the stimulus may next pass from the cell groups *in the visual centre*, in which these visual memory pictures of the orange are stored, say to the cell group in the gustatory centre in which the memory picture of the taste of the orange is stored; and from that centre to an associated cell group in the auditory speech centre in which the memory picture of the auditory speech symbol "sour" is stored, which will then be stimulated. Further, it is, of course, possible that the stimulus may pass from the cell group in the auditory speech centre in which the memory picture "orange" is stored to an associated cell group in the same centre—the auditory speech centre—in which the memory picture of the word "sour" is stored, provided the memory pictures (word percepts) of the terms orange and sour which are stored in these two cell groups have become sufficiently linked together in consciousness and that the nervous overflow may pass from the cell group in the auditory centre which represents the word *sour* to the cell group in the gustatory centre in which the memory picture of the (sour) taste of an orange is stored. The view which I have advocated with regard to the relationship of the auditory speech centre and the "ideational" centres is not accepted by all authorities.

BROADBENT'S VIEW AS TO A NAMING OR IDEA CENTRE.

Broadbent supposes that in addition to the auditory speech centre there is situated in some part of the cerebral cortex another centre which he terms the "*naming*" or "*idea*" *centre*, in which the combination of the evidence respecting the idea of an external object received through

[10] The uncertainty as to whether the original cell group in the sensory centre (say in the gustatory centre associated with the sensation of sweetness) must necessarily be (actively or passively) stimulated every time that the term "sweet" is subsequently aroused in consciousness is one which is constantly cropping up in connexion with the physiology and pathological physiology of mental action; and the same difficulty occurs with regard to the physiology and pathological physiology of the speech mechanism.

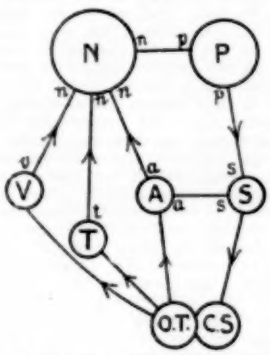
all the senses is brought into association with the name of the object. He says:—

> There is a primary or rudimentary perceptive act in which the external cause of a given set of sensations is recognised as such and in which the simple attributes, as of form, colour, hardness, &c., are perceived. And there is a higher degree of elaboration in which, by the combination or fusion of perceptions derived from the various organs of sense, a conception or an idea of an object as a whole is obtained. This is a new and distinct process and is usually accompanied by the affixing of a name to the object. To the "perceptive centres" I relegate simply the translation of sensations into rudimentary or primary perceptions and these centres must lie somewhere in the marginal convolutions, which receive radiating fibres from the crus and central ganglia, upon which, therefore, impressions will first impinge and which are symmetrically combined by the fibres of the corpus callosum. The higher elaboration, the fusion of various perceptions together, and the evolution of an idea out of them, will be accomplished not by radiation of an impression from one perceptive centre to all the others but by convergence of impressions from the various perceptive centres upon a common intermediate cell area in which a process analogous to the translation of an impression into a sensation and of a sensation into a primary perception will take place. This intermediate cell area will form a part of the supreme centre and will be situated in the superadded convolutions which receive no radiating fibres.[11]

And again:—

> The formation of an idea of any external object is the combination of the evidence respecting it received through all the senses; for the employment of this idea in intellectual operations it must be associated with, and symbolised by, a name. The structural arrangement corresponding to this process I have supposed to consist in the convergence from all the "perceptive centres" of tracts of fibres to a convolutional area (not identified) which may be called the "*Idea Centre*" or "*Naming Centre*." This will be on the sensory, afferent, or upward side of the nervous system, its correlative motor centre will be the "*Propositionising Centre*," in which names or nouns are set in a framework of other words for outward expression and in which a proposition is realised in consciousness or mentally rehearsed. If we are to have a seat of the faculty of languages, it would be here rather than in the third left frontal convolution, with which, however, it may possibly be in close proximity. Expressing this by a diagram (see Fig. 16) we have V, A, and T, the visual (angular gyrus, Ferrier),

FIG. 16.



Plan of "naming centre" (after Broadbent).

auditory (infra-marginal Sylvian gyrus), and tactual (uncinate gyrus), perceptive centres sending converging tracts of fibres, *v a, a a, t a*, to N, the "naming centre." Here the perceptions from V and T (smell and taste are omitted for the sake of simplicity) are combined into an idea, which idea is symbolised by the word reaching N through A, which has always, in the experience of the individual, been associated with the object. P is the propositionising centre in which the phrase is formed, its relations with N and S being sufficiently clear. It will no doubt be objected that there is no evidence of two centres, one for propositionising and the other employed by it for utterance; one for the construction and mental rehearsal of a phrase and the other for realising it in spoken words; and it is unquestionably true that, in a large proportion of cases of aphasia, both faculties are lost. The independence of the two operations seems to me, however, to be established by the following facts: *a*. There are cases in which the patient cannot frame the simplest phrase but can repeat anything said before him. Here S is intact, P destroyed. *b*. The converse of this—namely, that a proposition is realised in consciousness, so that not only the wish but the words are present to the mind, while the expression of them is impossible—is difficult to establish; but a comparison of cases of aphasia has led me to the conclusion that such is sometimes the case. If, however, there are really instances in which speech is lost while the power of writing is retained this would be conclusive. This will be considered later. This diagram (see Fig. 16) will perhaps bring out clearly what is, however, well recognised, the distinction between nouns or names and other parts of speech; the receptive centre, N, has to do only with names; as soon as other words are brought into use a motor function is exercised.[12]

[11] Transactions of the Royal Medical and Chirurgical Society, vol. xv, 1872, p. 181.

[12] Brain, vol. i., 1879, p. 494.

This view seems to me to be quite unnecessary and much less probable than the one which I have advocated. Although it is conceivable that the nervous processes which are the physical substrata of the simple perceptions which represent a simple idea or a concrete thing (such as an orange) might be correlated and focussed together, as it were in a "naming centre," it seems to me very difficult to conceive that the highly complex nervous processes which constitute the physical (nervous) substrata of a highly complex abstract idea, such as the term "government" denotes, could be so focussed. Further, so far as I know, there are no facts to show that a localised lesion in any part of the brain other than the auditory speech centre is capable of completely obliterating the memories of names; in other words, clinico-pathological observations lend, so far as I know, no definite support to Broadbent's view.

In the *Journal of Nervous and Mental Disease* for January, 1895, C. K. Mills and J. W. McConnell reported a case which, they think, supports Broadbent's views and shows that the "naming centre" is situated in the inferior part of the left temporo-sphenoidal lobe. William Elder, in his book on Aphasia, quotes the case and agrees with the deductions which Mills draws from it. With this opinion I am quite unable to agree; the facts of the case do not, in my opinion, warrant the conclusions which the authors base upon them. The details of the case, which are of importance so far as the question of a "naming centre" is concerned, are as follow:—

> A married woman, aged about 40 years, was first seen on July 16th, 1894. Two years before she came under observation she seems to have presented some symptoms of word blindness. On examination she was found to be word-blind but not letter-blind; there was apparently (the clinical details are very meagre) agraphia and there was right-sided homonymous hemianopsia. She was unable to name objects either from sight or touch, though she evidently understood what they were. She talked spontaneously but not freely, rarely using concrete nouns and sometimes misplacing words. She had some difficulty in repeating words but there does not appear to have been any word deafness. Six weeks before her death right-sided hemiplegia gradually developed. During the last weeks of her life "yes" and "no" were the only expressions used by her. She died on Sept. 10th, 1894.
>
> *Post-mortem examination.*—A gliomatous tumour was found in the lower part of the left temporo-sphenoidal lobe. "The parts chiefly destroyed were the white matter of the third, to a less extent of the second, and to a still less extent of the fourth temporal convolutions. Internally, the roof of the posterior horn of the lateral ventricle presented a slightly congested and granular appearance." The authors state that "the disease almost certainly started in the third temporal convolution, at a point with the posterior extremity of the horizontal branch of the Sylvian fissure."

Criticism.—I would suggest that the lesion must have been more extensive than the authors state. A destructive lesion limited to the lower part of the left temporo-sphenoidal lobe does not satisfactorily explain the symptoms which the case presented during life (word blindness, agraphia, right-sided homonymous hemianopsia, inability to name objects on sight and touch, and, ultimately, complete motor aphasia and right-sided hemiplegia), more especially when it is remembered that there was no word deafness and that the auditory speech centre was certainly not completely destroyed. The lesion did not involve the first temporal convolution; the second temporal convolution, which is probably a part of the auditory speech centre, was only partly destroyed.

The inability to *name* objects on sight and touch was probably, I think, due to interruption of the conducting fibres passing between the visual and tactile centres, on the one hand, and the auditory speech centre on the other. That the visual speech centre and the subjacent white fibres were involved seems to be conclusively proved by the facts that the patient was word-blind, agraphic, and affected with right-sided homonymous hemianopsia. Further, the history of the case seems to show that word blindness was present two years before the patient's death. I repeat that, in my opinion the case does not give any support to Broadbent's view; to my mind, it does not afford any proof either of the existence of a "naming centre" or of the position of that centre.

Again, according to Broadbent's theory, if I understand him rightly, destruction of the "naming" centre (N)—*the auditory speech centre (A) being unaffected*—will not only obliterate the idea, as a whole, which the name symbolises but *will produce word deafness for names and will also render the patient unable to intelligently revive the memory pictures of names and spontaneously to make use of names for the purpose of intellectual speech*. Now, if this is admitted, destruction of the "naming" or "idea" centre (N) should also destroy the patient's ability intelligently to make use,

for the purposes of thought, of the memory pictures which are stored in the visual and tactual centres (V and T), for the centres V and T have, according to Broadbent, exactly the same relationship to the naming centre (N) which the auditory centre (A) has. Such a conclusion seems to be opposed to our knowledge of the working of the brain and of the relationship of speech and thought.

It is, of course, conceivable, if Broadbent's theory were correct, that destruction of the "naming" centre (N) would destroy the *combined* mental picture of an object—the idea of an object which is formed *by the combination* in the centre (N) of the primary memory pictures represented in the lower (primary perceptive) centres (A, V, and T). But even if this were so, if destruction of the naming centre (N) were to produce obliteration of the *combined* memory pictures—the ideas of objects *as a whole*—I see no reason why destruction of the naming centre (N) should also destroy and prevent the revival of the primary memory pictures stored in the auditory, visual, and tactual centres (A, V, and T); in other words, I see no reason why destruction of the naming centre (N)—*the auditory centre (A) remaining unaffected*—should render the patient unable to recall and make use of names for the purposes of speech.

It seems to me that the so-called "naming centre" is merely that part of the higher auditory centre (the auditory speech centre or its annexe, as Bastian terms it), in which an elaborate system of connexions is established between certain cell groups representing auditory speech impressions (word percepts) and other portions of the cerebral cortex in which cell groups representing the memory pictures or ideas which those word percepts represent are stored. This view is, I think, confirmed by the process of introspection. When we hear the name of an object, such as an "*orange*" we do not immediately perceive in consciousness all the attributes of that object; there is an obvious interval between the raising up in the mind of the different attributes (qualities or ideas which the word percept symbolises)—an obvious break or interval in the process of thought which it is reasonable to suppose corresponds to the overflow of the stimulus from one associated centre to another. So, too, when we are asked to express or define what we mean by an abstract idea, such as the term "*Government*," we cannot immediately express the complicated mental idea which the term involves as it seems to me we ought to be able to do if Broadbent's theory were correct—if the complex ideas which the term "Government" represents were focussed or gathered together in a special "naming" or "idea" centre—we have to take time, and often a long time, to think what the term means, to deliberate, to collect our thoughts before we can define and express what we mean by the term.

The chief argument which has been advanced by Broadbent in favour of the existence of a "naming centre" is the fact that in certain cases of aphasia the patient is absolutely unable to make use of names, whereas he retains the ability to make use of other parts of speech in which names, as Broadbent puts it, are set in a framework. But this argument does not seem to me to be at all conclusive. To my mind it merely proves either (1) that the memories of names are stored up in a special part of the auditory speech centre, while the memories of words other than names are stored up in some other part of the auditory speech centre; or (2) that the memories of words other than names may, perhaps, *also* be stored in some other centre, possibly in the kinæsthetic or vocal speech centre (Broca's centre), as well as in the auditory speech centre. It is quite conceivable that the kinæsthetic memories of the parts of speech other than names and attributes may in some cases be so firmly imprinted in the kinæsthetic speech centre (i.e., ? Broca's centre or the vocal speech centre) that, after destruction of the auditory speech centre or the part of the auditory speech centre in which the memory pictures of names are stored, they can be independently revived in consciousness and made use of for the purposes of speech and thought.

Various other explanations may also be given. Possibly words other than names—i.e., the parts of speech in which names are set in a framework—which are frequently used are not only imprinted (stored up) in the left but also in the right auditory speech centre. While we must, from the observation of cases of auditory aphasia, suppose that in most persons memory pictures of the objects (nouns) are stored up (or chiefly stored up) in one (the left) auditory speech centre, it is not unreasonable to suppose that the memory pictures of words representing attributes (adjectives) which are frequently used are bilaterally represented. In health, as everyone knows, it is very common to forget the name of a person; it is much less common to forget the name of a thing or of an action unless that thing or that action is a rare thing or a rare action; it is extremely difficult (almost impossible, I suppose, in health) to forget the name of an attribute (such as *sweet* or *good*) which is frequently used and very generally applied; and it is probably still more difficult to forget the words (other than the names of things, actions, and attributes) which form the parts of speech in which names (of things, actions, and attributes) are set in a framework. Exactly the same defects are met with in disease. Names (other than one's own name or the names of one's immediate relatives or of striking personalities such as Bismarck or Gladstone) are first lost. But this does not, to my mind, in any way necessitate the supposition that there is a "*naming centre*" as distinct from the auditory speech centre It only shows that the memories of terms and words which are least used are less firmly imprinted (perhaps only imprinted on one side of the brain) and are, therefore, most easily forgotten; whereas the memories of terms and words which are in more constant use are so firmly imprinted and the tracts which connect the cell groups in the auditory speech centre, representing such terms and words, with the associated sensory centre or centres in which are the visual, kinæsthetic, or other memories of the objects which those terms or words represent, are so well worn and frequently used that such names and terms are readily recalled and are not easily forgotten.

Again, as Bastian has pointed out, differences in the severity of the lesion, whether it is merely a functional derangement or an organic destruction, will without doubt produce a different effect in the obliteration of the different word memories in accordance with the firmness, so to speak, with which those memories are imprinted or fixed in the cell groups of the auditory speech centre. A comparatively slight functional derangement, which has no effect upon a firmly fixed impression, may obliterate the memory picture of an impression which is less firmly fixed. Faint impressions and faintly fixed impressions tend in the course of time to disappear and the mental pictures which they represent to be forgotten. Faintly fixed impressions will *a fortiori* be easily blotted out either temporarily or permanently by pathological alterations or even physiological changes, such as exhaustion, which either temporarily impair, or permanently destroy, the functional activity of the cell and fibre mechanisms in which they are implanted. It must, however, I think, be admitted that a mere functional degradation of this kind does not satisfactorily account for cases such as Broadbent has described[13]—cases in which the patient is absolutely unable to make use of any name or noun but in which he retains the ability to make use of other parts of speech.

The view which I have just advocated regarding the relationship of the auditory speech centre to the process of thought was clearly expressed by Bastian so long ago as the year 1869 and it is adopted by most authorities. The following extracts from his work on aphasia are, in this connexion, of great importance. In speaking of Broadbent's naming centre he says[14]:—

> It seemed to me wholly unnecessary and at variance with what appeared to be the real nature of the process of perception. ..... Thus the work which Broadbent supposes to be done in his "naming" or "concept" centre is according to my view carried out by the simultaneous activity of the different perceptive centres and certain annexes that are derivative developments therefrom, of which I shall subsequently speak. ..... Again, as I have previously endeavoured to show, perceptive processes vary greatly in complexity and merge by insensible gradations into processes of conception. It seems thoroughly legitimate, therefore, to suppose that these latter more specialised modes of mental activity, whilst having their roots in perceptive centres, may be completed in outgrowths therefrom—that is, in parts of the brain which are in close relation structurally and functionally with the several sensory centres. I have commonly spoken of such regions as "annexes" of the perceptive centres. ..... Those regions seem, therefore, to correspond with what I have referred to above as "annexes of the perceptive centres." They occupy a large proportion of the cerebral cortex and are thus described by Flechsig: (1) in parts of the prefrontal lobes; (2) in a large portion of the temporal lobes; (3) in a considerable area of the posterior parietal region; and (4) in the island of Reil. These four fairly well-defined areas are, as above stated, not directly connected with afferent or with efferent fibres, and, in addition to this, two other reasons are given for supposing them to be concerned with the carrying on of higher functions. Flechsig points out, in the first place, that these regions remain immature and completely

[13] Brain, vol. i., p. 496.
[14] Aphasia and Other Speech Defects, p. 44, et seq.

devoid of myeline for several months after birth, though the sensorial centres have arrived at comparative maturity; and, secondly, that these association centres are the parts which are especially developed in the brain of man as compared with that of the lower animals." ..... Bastian then points out "that Broadbent had, twenty years previously, cited almost exactly these regions of the cerebral cortex as parts that were neither in direct relation with peduncular fibres nor with those of the corpus callosum and that he had attributed to these regions (for almost exactly similar reasons) just the same functions as those now assigned to them by Flechsig." ..... He adds: "It is, I think, perfectly legitimate to suppose that the annexes of the sensory centres, to which I have previously referred, tend to be developed in the directions above indicated by Broadbent and Flechsig, though how much of these territories they occupy must remain altogether uncertain. It seems also probable that there is no sharp line of demarcation between these annexes and the several sensory areas and that *the combined sensory areas, together with the annexes, are accustomed to be thrown into functional activity more or less simultaneously.* Thus the processes of perception and conception, together with revival of linguistic symbols, are probably almost as inseparable in their localisation as they are in their nature and modes of occurrence; and their anatomical substrata must be supposed to occupy a very considerable extent of the cortex of both hemispheres." ..... He quotes the late James Ross to the effect: "And on passing from thinking by percepts to thinking by concepts, and from that to thinking by abstracts, there are no new centres introduced, but only a complication upon complication of the one perceptive centre.[15] All that can be said is that the correlative of perceptive thinking is excitation of that portion of the cortex of the brain which is directly connected with the sensory inlets; of conceptive thinking, excitation of portions of the cortex of the brain which are indirectly connected with them; and of abstract thinking, excitation of portions which are still more remotely connected with them. It must, however, be remembered that the effective working of the portions of the cortex which are remotely connected with the sensory inlets will in a great measure depend upon the integrity of those that are in direct relation with them."

In the construction of diagrams illustrative of the higher cerebral and speech mechanisms *it is convenient for the sake of simplicity and illustration* to introduce above the recognised perceptive or sensory speech centres (auditory speech centre and visual speech centre) and above the motor (or, as Bastian terms them, kinæsthetic) speech centres (vocal speech centre and graphic speech centre) two higher centres representing, on the sensory side, *Consciousness* and *Intelligence*, and, on the motor side, the *Will*, or one supreme centre representing *Consciousness, Intelligence*, and the *Will*, but it must be remembered that *there is absolutely no reason to suppose that any such centres or centre exists as definite and distinct areas or centres in localised parts of the cerebral hemispheres;* on the contrary, such a supposition seems to be altogether erroneous and in absolute contra-indication with our knowledge of the working of the brain and of the construction of the nervous mechanisms the integrity of which is essential for the manifestation of the psychical phenomena which we term Consciousness, Intelligence, and the Will.

All the different areas of the cerebral cortex and their connecting tracts are the physical substrata, the action of which is associated with the psychical or mental phenomena—Consciousness, Intelligence, and the Will. Each and every one of these cortical mechanisms (centres and associated tracts) forms a part of the physical substrata, the action of which is associated with the manifestation of the psychical phenomena—Consciousness, Intelligence, and the Will. The cortex as a *whole* is the seat of Consciousness, Intelligence, and the Will. Destruction of any one of the sensory or motor (? kinæsthetic) cortical centres necessarily obliterates the memory pictures which are stored up in that centre; the Intelligence is thereby the poorer, but in other respects it may remain the same, while Consciousness and the Will are, or may be, entirely unaffected. In such circumstances, the other mechanisms of the cerebral cortex may continue to play their part, though, in consequence of the loss (obliteration) of the memory pictures which were imprinted in, and the loss of the associations which can only be carried on through, the centre which is destroyed, certain of the faculties of the mind, as an intelligent, thinking, reasoning, and volitional mechanism, must necessarily be to some extent interfered with and impaired.

But while there are no localised centres for Consciousness, Intelligence, and the Will, and while I see no reason for supposing that there is, as Broadbent thinks, a special *naming* or *idea* centre and a special *propositionising* centre, in addition to the auditory speech centre (which I regard as the naming centre) and the vocal speech centre (which is possibly to some extent a centre in which the memories of words other than names—the kinæsthetic memories—are stored), it does not, of course, follow that the various sensations and impressions which are primarily represented in the sensory (receptive) centres of the cerebral cortex and which are re-grouped in the higher auditory and visual centres (auditory, visual, and so on) may not be again re-grouped and brought into still more complex relationships in some still higher part of the cerebral cortex; and if this is so, one would naturally expect that the impressions which have been in this way re-arranged, re-grouped, and re-coördinated, as it were, would play (either directly or indirectly) upon the emissive, or, as they are usually termed, motor mechanisms and centres of the Rolandic area (ascending frontal convolution). In other words, it is probable that various sensations and impressions, for the conscious perception of which the sensory centres (auditory, visual, &c.), in the cerebral cortex would alone appear to be sufficient, may be re-grouped and brought into fresh combinations (coördination) in some higher and probably adjacent part of the cerebral cortex.

Hughlings Jackson believes that, in addition to the usually recognised motor and sensory centres of the cerebral cortex (which, he thinks, are the second tier of motor and sensory centres, the first or lower tier being in the pons Varolii, medulla oblongata, and spinal cord), there are higher motor and sensory centres. These highest motor centres are, he supposes, situated in the frontal lobes, while the highest sensory centres are, he thinks, situated behind Ferrier's sensory centres. Ferrier thinks such an arrangement unnecessary. But while there may be no sufficient reason for supposing that there are higher centres to which the terms *motor* and *sensory* (in the sense that I understand these terms) can be definitely applied, it is quite reasonable, I think, to suppose that there are higher centres in which the conscious impressions which have been registered and retained in the lower (ordinary) sensory centres of the cerebral cortex and which have been re-arranged and re-coördinated (in order that they may be brought into anatomical and physiological connexion with other and more distinct centres) in such centres as the auditory speech centre, the higher visual centre and their "annexes," may be again gathered together, as it were, re-arranged and coördinated in a still more complex and intricate manner. If these highest centres exist, they are perhaps situated in the prefrontal lobes, which are very generally regarded as being in a special sense the seat of the intelligence and of attention—as centres placed, as it were, above all the other centres and parts of the brain. Some such mechanism would appear necessary to form the physical substrata associated with the more complex mental processes of abstract thinking, deliberation, volitional attention, and the like; and this must, I think, be allowed to be an argument in favour of the supposed existence of such highest centres. But when we grant that, we perhaps grant all. In the present position of our knowledge the question must necessarily be left an open one.

But even if such highest centres exist, they cannot, of course, be regarded as *the exclusive* seat of Consciousness, Intelligence, and the Will; they can only be regarded as the position in which the nervous mechanisms of lower sensory and motor centres (and their annexes) in the cerebral cortex are re-coördinated and re-combined and brought into relationship so as to facilitate the complex mental process of abstract thinking, deliberation, judgment, control, and the like.

THE PHYSICAL BASIS OF MEMORY.

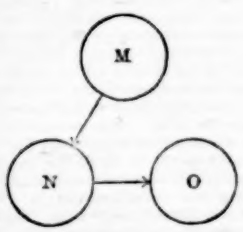
In this and the preceding lecture I have more than once spoken of mental pictures or memory pictures being stored in particular cell groups of the cerebral cortex. These statements are not, of course, strictly accurate. Mental pictures and memories are psychical phenomena; they consequently cannot be stored up in nerve cells; they—the psychical phenomena—occur in connexion with certain physical changes in the nerve cells of the cortex and although everything that we know of the working of the brain seems to show that the physical (nervous) changes are necessary and essential for the production of the psychical phenomena which attend and are developed coincidently with the nervous (physical) changes, the one (the psychical) cannot be expressed in the terms of the other (the physical). The two sets of phenomena though concurrently manifested are, so far as our present knowledge enables us to judge, totally and radically different and distinct. Further, it must be remembered that, although the revival of a particular

[15] It would be more correct, I think, to say that in passing from thinking by percepts to thinking by concepts and from that to thinking by abstracts *the same centres* are engaged and that there is merely a complication upon complication of the different perceptive *centres and their annexes* which are scattered through the cerebral cortex.

mental picture or idea necessitates the re-stimulation or re-excitation of exactly the same nerve elements, which were stimulated and excited when the mental picture or idea was originally (i.e., first) perceived in consciousness, and that a particular mental picture can only be revived as the result of the re-stimulation and re-excitement of those nerve elements and *of no others*, the mere re-stimulation and re-excitement of those nerve elements does not express the whole nervous change which corresponds to the revival in consciousness of the *memory* of that idea. In order that the re-excited image may be perceived in consciousness *as a memory*, consciousness must be aware of the fact that the idea has been perceived before; consequently a something more in the way of nerve change than the mere revival of the idea is obviously necessary. That this is so is proved by the fact that when the memory of an idea is completely lost the re-stimulation and re-excitement of the nervous elements (which form the anatomical and physiological substratum of that idea) merely excite and raise up in the mind the primary idea and not the memory of that idea. I see, for example, an object—say, a particular man; his is attended with the stimulation of a certain group of nerve cells in the visual centre. The fact that I have seen the individual fades from the mind, the memory is lost. But when the object is again presented to me—when I again see the same man—the same group of nerve cells is again stimulated; but the additional something in consciousness (the "*setting*" of the mental picture or idea, as W. James terms it) has been lost, the nerve change, whatever it is, which is attended with the development in consciousness of *the additional something* is not excited and I say I have never seen that man before. What this additional nerve change, which is attended with the consciousness of the fact that the mental picture or idea has been perceived before, is we do not (so far as I am aware) exactly know, but there seems every reason to believe that it must consist in an overflow from the cell group in which the original mental picture is stored to some associated cell group or cell groups, and the raising up in the mind, in consciousness, of a something which was (perhaps with the revival of the mental ideas which were) coincidentally aroused when the mental picture was originally perceived in consciousness.[19]

[19] James puts it in the following terms: "Memory requires more than mere dating of a fact in the past. It must be dated in *my* past. In other words, I must think that I directly experienced its occurrence. It must have that 'warmth and intimacy' which were so often spoken of in the chapter on the Self as characterising all experiences 'appropriated' by the thinker as his own. A general feeling of the past direction in time, then, a particular date conceived as lying along that direction, and defined by its name or phenomenal contents, an event imagined as located therein, and owned as part of my experience—such are the elements of every act of memory. It follows that what we began by calling the 'image' or 'copy' of the fact in the mind is really not there at all in that simple shape as a separate 'idea.' Or at least, if it be there as a separate idea no memory will go with it. What memory goes with is, on the contrary, a very complex representation, that of the fact to be recalled *plus* its associates, the whole forming one "object," known in one integral pulse of consciousness, and demanding probably a vastly more intricate brain-process than that on which any simple sensorial image depends. A simple scheme (see Fig. 17) will now make the whole cause of memory plain. Let *a* be a

FIG. 17.



past event; *a* its 'setting' (concomitants, date, self present, warmth and intimacy, &c., &c. (as already set forth); and *m* some present thought or fact which may appropriately become the occasion of its recall. Let the nerve centres, active in the thought of *m*, *n*, and *o*, be represented by M, N, and O respectively; then the *existence* of the paths M–N and N–O will be the fact indicated by the phrase 'retention of the event *a* in the memory,' and the *excitement* of the brain along these paths will be the condition of the event *n*'s actual recall. The *retention* of *n*, it will be observed, is no mysterious storing up of an 'idea' in an unconscious state. It is not a fact of the mental order at all. It is a purely physical phenomenon, a morphological feature, the presence of these 'paths,' namely, in the finest recesses of the brain's tissue. The recall or recollection, on the other hand, is a *psycho-physical* phenomenon, with both a bodily and a mental side. The bodily side is the functional excitement of the tracts and paths in question; the mental side is the conscious vision of the past occurrence and the belief that we experienced it before." (The Principles of Psychology, vol. i., pp. 650, 651, and 655.)

A Lecture
ON
THE ETHICS OF THE MEDICAL PROFESSION IN RELATION TO SYPHILIS AND GONORRHŒA.

Delivered before the Harveian Society on Feb. 8th, 1906.

BY CAMPBELL WILLIAMS, F.R.C.S. ENG.

GENTLEMEN,—It has always appeared to me to be more than passing strange that the laws of our country whilst making it incumbent upon the medical profession to notify the public health authorities of the existence, and consequently the likelihood of propagation, of certain duly specified diseases, either of a contagious or infectious nature, have nevertheless apparently deemed it unnecessary, or perchance impolitic, to include that health-ruining and race-deteriorating malady syphilis within their schedule. One can better understand the omission of gonorrhœa from the catalogue, since the average lay mind fails to grasp the gravity of its possibilities and fallaciously relegates it to the domains of trivial complaints.

There is probably no medical man who has not on many occasions been brought face to face with patients of both sexes suffering from one of the many disastrous results to which the intruding and aggressive gonococcus may give rise—effects which may not only ruin happiness and health for good and all but maybe lead to death. With syphilis, however, one would think that the plea of ignorance as to its baneful capabilities could never have been a factor which influenced its exclusion from any list of public dangers. One must rather attribute its omission to that false sense of modesty which pervades the average British mind and prevents public reference or consideration of any disease in connexion with the "to silence sacred" genital organs. It would seem that though we are cognisant of an existing and ubiquitous danger we nevertheless prefer, through lack of moral courage, to close the legislative eye and to remain sanitarily dumb upon a subject and condition of affairs which is medically admitted to be one that demands the State's most urgent attention. The position of any medical man, and more particularly the family medical adviser, when he has learned of the existence of gonorrhœa or active syphilis in *one* member of a married couple is under the present *régime*, which imposes the toils of quasi-father confessorship upon us, not a particularly enviable one. For though fully recognising the possible—nay, even probable—danger of propagation, one is in many instances closely restricted to giving the patient a solemn warning as to the intense contagiousness of the disease and to dilating upon the certainty of its dissemination should our admonition, as it too often is, be disregarded. We are, so to speak, tongue-tied and have, through professionally enforced silence, to rely against further propagation of infection upon the dictates of a conscience which has already proved itself unworthy of trust. If this were not so we could often be in time, by calling a spade a spade, to safeguard the innocent against contagion and the misdeed of adultery, culminating in gonorrhœa or syphilis, would not have to be temporarily screened by those whose duty it should be to preserve health. I have no doubt that the cost of this quarantine, which is denied us, would be either a voluntary or judicial separation, but perchance with a woman's health preserved. For in the large bulk of cases of domestic venereal disorders it is the man who propagates disease through having consorted with some infectious prostitute. It may be that some wives would not agree with me when I say that were I but a woman I should consider freedom from syphilis or Fallopian tube mischief to be cheap even

at the price of marital separation and to be infinitely preferable to impaired health and possibly subsequent divorce proceedings on the grounds of "adultery and legal cruelty." But the restraint which our cloth imposes upon us, that secrecy and confidential relationship which exists between medical man and patient, not only ties the mouth but compels us, until the law wills otherwise, to confine our well-meant timely warning, so pregnant with danger to an innocent and unsuspecting woman, to some fairy tale or else cryptic hints which as often as not fall upon the wifely ear as empty meaningless words. It has always seemed to me to be somewhat of a paradox that whilst one may unhesitatingly apprise a man's wife of the existence of some trifling exanthem within her home and against which she may be immune, we are nevertheless in certain instances bound to exercise an almost criminal reticence towards her—a conspiracy of silence as it were—when dealing with venereal diseases which in all probability may gravely concern her future health and welfare. It is needless for me to point out that when infection has, or probably has, been effected one could serve no good purpose by enlightening an unsuspecting wife as to the true nature or cause of the illness from which she is suffering. Moreover, she would probably not understand the bald mention of such diseases as syphilis or gonorrhœa. It would require a full and lucid explanation to make her realise the contingencies necessary for their contraction and dissemination. In such a case ignorance is bliss, more particularly when she perchance idolises her husband and regards him as an impervious monument of morality. Any awakening as to marital deception would do no good but only add unhappiness to ill-health.

Let us now consider the somewhat awkward position of a practitioner who has been called in to see some ailing servant, such as a parlour-maid, cook, or even nursemaid who bathes, clothes, and feeds the children of the house, perchance putting the very spoon with which they eat into her mouth. He may find the patient, as I have done, to be rampantly syphilitic or else gonorrhœally infected, exuding drachms of most contagious pus daily, and consequently a possible danger to every other member of the household. In such cases there can be, in my opinion, no alternative judgment or course. The patient must leave her situation at once, either voluntarily or, if needs be, through pressure or even exposure. Perhaps there may be some sticklers of ethics who would not agree with me as to the permissibility of disclosure, even in such a flagrant case, should such a drastic course become actually necessary to make her go. But I feel convinced that most people would more than thank me for my breach of faith on behalf of their safety. The more perplexing cases as to what is the right thing to do are those in which an element of doubt is present. The patient is suffering from a hitherto unknown anæmia and lassitude and complains of being feverish towards and during night-time, but which symptom has left her, so she says, when she wakes in the morning. You know that she has recently been immoral, because she has confessed as much to you, and consequently you may think of syphilis as a possible cause for these symptoms. An examination, if such be permitted, reveals no unimpeachable signs of the malady and though you may shrewdly suspect the disease to be the "fons et origo mali" you are for the time being uncertain as to its presence or not. I think we would all agree that you could not inform her mistress of the immorality—a fact which you have gleaned as it were under the seal of confession—and you could not hint about the doubts which fill your mind as to the possible nature of the disease without thereby disclosing the exciting cause thereof. In one hand you hold the patient's confidence and in the other the safety maybe of a third person, and you are bound to respect both. Well, I am afraid that all which one can do is to wait and watch, taking upon your own shoulders any and all risks which your professional silence engenders. Fortunately for us, cases of infection in this wise—that is, mediate communication—are comparatively rare. But they do occur from time to time, as many of us have experienced. Of course, in the case of a vaginal discharge any element of doubt as to its gonorrhœal or leucorrhœal nature can be quickly dissipated by microscopical examination. This should never be neglected, since acute or even subacute leucorrhœa so often mimics many of the classical symptoms of its venereally contracted and ophthalmically dangerous prototype. With suspected syphilis, however, I do not think that the microscopical discovery of a spirochæta in the blood would make most of us unhesitatingly plump for the existence of that disease, in the absence of all outward and visible signs of the malady, other than the prodromal symptoms. Personally, in such a case I should feel inclined to throw the odium of a possibly incorrect diagnosis on a professional pathologist, or, at least, until we have more unequivocal proof that the presence of the spirochæta is "the cause" of the syphilitic phenomena, though I must say that I think Schaudinn and Hoffmann are right and that they have discovered the organism. Possibly the spirochæta pallida may open up a new line of treatment.

In consulting practice one's patients are frequently, if I may use the term, but perambulating units of suffering humanity. One neither knows who they are or whence they come, and once they have re-crossed the threshold of your doorstep they go forth to mix amongst their fellow creatures free from all restraint excepting such as your warning and the dictates of their own conscience may impose upon them, both of which influences are but slender reeds which either the swish or rustle of a passing petticoat may swiftly bow to earth and thereby perpetuate the cycle of disease. There is a good old saying that "half a loaf is better than no bread." So if the State cannot, for political reasons, make the notification of the diseases in question applicable to society at large it might at least take steps to enforce restraint upon that abandoned element of the population which gains its livelihood through vice. The prostitute is undoubtedly the fountain head for the propagation of these diseases. I take it that if one wishes completely to rid a view of an unsightly tree, or a field of some rank evil-spreading weed, the quickest way to attain that end is not to lop off branches here and there but to try to uproot it in its entirety. But what is the position or attitude of the medical profession in this matter? It is simply one of helplessness, if not carelessness. One may see a prostitute plying for hire, either in the streets or else in some place of amusement whom only a few hours ago you have examined and found to be syphilitic, and who, notwithstanding all your warnings which have scarcely had time to grow cold, cannot, under our present laws, be restrained from infecting the community. This seething mass of syphilis is absolutely free to do as she lists. If any medical man doubts the accuracy of this statement, which I make through many years' experience at the Lock Hospital, I would advise him to apply for permission to attend the female out-patient department of such an institution and on that selfsame night to go out either into the highways or else to some place of amusement which this class of women frequent, and put his memory of faces to the test. I feel more than convinced that an extra strong wave of morality would sweep over him, and that he would thereafter see the position of affairs from the sanitary point of view to which I wish to draw your attention. No amount of legislation other than the drastically lethal method employed by certain native races will make a nation or people as a whole moral and since we cannot attain that most desirable end surely the next best thing to do is to make some earnest endeavour to preserve the community's health. I think it is a pretty well recognised fact that many people contract venereal disease not through erring with malice aforethought but through being waylaid by some perambulating prostitute who happens to accost them in a weak moment when alcohol has capsized their better judgment and made them cast all thought of consequences, assuming that they ever knew of the existence of such, to the four winds of heaven. Many a married workman with his week's wages in his pocket and a little Saturday afternoon drink within his stomach would have reached his home and wife safely and undiseased if our streets were but free from such limpet-like pests. Nor would the silly youth who happens to have taken more wine than his weak head and erotic centres would stand be lured for the first time in his life to whoredom and disease through accidentally meeting some importuning and infectious harpy. Many of these boys—for they are little better than that—even if they chanced to know the whereabouts of a brothel would, through never having been to one before, lack sufficient courage to go there but would reach home possibly sick at stomach but otherwise sound in body and health.

Now here are we medical men, who as a party should be some 30,000 strong, content as it were with this attitude of *laisser faire*. A few individuals here and there may raise the voice of protest but as a body corporate, thousands of whose unsuspecting fingers have been syphilitically infected in the discharge of their professional duties, we remain, if not

discreetly dumb, at least negligently silent upon this urgent matter, allowing our knowledge and experience to be overruled and stultified by the judgment of certain people who are totally unqualified by aught than fanaticism to express an opinion on such a momentous matter—a subject of which they have neither medical knowledge nor practical experience. There is a certain section of this class who, either from a strong religious or extra-moral sense of duty, hold that any preventive measure which might confer a degree or element of safety upon vice is consequently wrong. They fallaciously seem to think, though their thoughts are contrary to the weighty evidence of facts, that the terror of contracting disease will act as a deterrent to fornication and that fear is either conducive to, or will generate, morality in a nation. Their dictum would appear to be allied to that Gilbertian one which holds that the "punishment should fit the crime," apparently oblivious or heedless of the fact that the innocent too frequently share the penalty with the guilty and oft-times endure the bulk of it. To my mind there is no reason why the sins of the fathers should be visited upon the wives, much less the children. We could and should stop both to a very large degree. I have often wondered if some of these hysterical and narrow-minded champions of "morality at any price" were to become accidentally infected whether they would subsequently hold their same intolerant views or if they would not, even more than ordinary people, resent the supineness of our laws which permit the uncontrolled transmission of those diseases which they themselves strive so hard to perpetuate. My experience of this class is that they regard the safety of their own skins from a very different standpoint to that from which they view other people's and are amongst the loudest with their shrieks should danger draw unpleasantly near themselves. We as medical men, even though we do not express our views with the vehemence of an Exeter Hall orator, may perchance realise, just as clearly as the laity, clergy, or even elderly spinsters, that immorality is neither good for the individual nor for the community at large. But as men of the world we are broad-minded enough to recognise the patent fact that no effort on our part will alter human nature as it is and as it ever seems likely to be. *Naturam furcâ expellas tamen usque recurret.* For natural passions always have found, and always will continue somehow to find, their vent, and no amount of preaching on our or anybody else's part will alter the trend of humanity.

The present-day cost of maintaining a wife is more than frequently a financial bar to many a young man who would otherwise seek and find sanitary salvation in matrimony. But as want of means denies him this luxury it too often happens that his natural erotic tendencies lead him within that zone of dangers which ever beset indiscriminate intercourse, even if they do not cast him upon the lurking rocks of syphilis or gonorrhœa. Everybody is not built with a stable nervous organisation or with a strong will-power. Nor is the trend of their heritage calculated to enhance the spontaneous growth of a morality the principles of which have never been properly inculcated within the childish or youthful breast by parental tuition, advice, or example. With many people immorality deserves pity rather than blame in that it is a symptom of inherited psychical degeneration just as much as dipsomania, crankishness, and any blatant anti-ism which often are but other phases by which ancestral neuroses declare themselves. The narrow borderline between genius and insanity not infrequently expresses its existence by either an irrestrainable or else a perverted erotism. Some people are moral, I might say truly moral, purely from their parental training and upbringing which have developed within them a higher sense of right and wrong. Others inherit morality through that pure accident of birth which finds them, through either an arrested development of the cerebral sexual centres or from a faulty growth of the genital apparatus, with an almost total absence of sexual instinct or desire. This piece of luck, if such it be, endows them with an unearned and ready-made cloak of righteousness which they seem to love to flaunt as an example to the weaker members of the community. To them immorality, and not morality, would be the effort. A few of those who pose as moral towards the female sex owe the attainment of their power for celibacy, as they have confessed to me, to self-engendered conditions which would hardly meet with approval, nor could the practice by which their revulsion or impotence is gained be recommended as a panacea or substitute for sexual intercourse. In fact, I question whether the secret and vicious cause for their ostensible morality is not a greater evil to body and mind than fornication itself. In my experience it is often much more difficult to rehabilitate lost manhood, or to relieve some of its more distressing symptoms than it is to cure an average case of syphilis. Many of these poor weak-minded wights in their secret endeavours to assuage nature and to avoid disease have wrecked their lives and health just as badly as the infected and fornicating impotent libertine. It is not any of these types of moralist who require our protection against venereal disease, in that they, after their own particular fashion, protect themselves; it is rather the medical profession which requires shielding from their well-meant but misguided efforts which have done so much to counteract all our attempts towards restricting disease.

I must now bring this plain-speaking paper to an end and I would ask your kind consideration and opinion upon the following controversial points. Shall we knowingly and wittingly permit diseases which we could, and in my opinion should, check from exercising their baneful results without any effort on our part to restrain their dissemination? Or should we as a profession awake from our lethargy and by showing a united front make some endeavour to arrest their spread and ravages. Moreover, are we justified in certain cases in relaxing our attitude of professional secrecy and reticence when we have good reason for believing that our sphinx-like demeanour will probably result in some innocent person being infected; or shall we, like Nero whilst Rome blazed, be callous of a woman's health which may perchance, through our silence, be scathed or even burned to cinders of its former self? I take it that in this game of Human Bridge, of which the stakes are health, we as a profession not only hold four aces and all the leading cards but likewise have the "call."

SOME OBSERVATIONS UPON THE ETIOLOGY OF OBLIQUE INGUINAL HERNIA.

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THAT there should be some considerable doubt as to the etiology of such a common complaint as inguinal hernia does not reflect much credit upon the medical profession, and I trust, in view of the numerous contributions to the literature of this subject by many illustrious surgeons, that the following remarks of an obscure provincial surgeon who certainly lays no claim to originality may not be considered an impertinence.

Though the presence of an inguinal hernia must be due to some weakness of the structures which form the opening through which the abdominal contents escape, the question yet to be answered is, What are the chief factors which constitute this weakness and so determine the descent of the bowel? It is, I believe, generally admitted that in the great majority of such herniæ which occur during infancy the local weakness is due to the presence of a pre-formed sac, an unobliterated portion of the processus vaginalis testis. In the ordinary hernia of adult life, however, the local weakness is not as a rule considered to be due to any such congenital defect but to be confined to the muscular and aponeurotic structures of the abdominal wall which permit of the escape of the bowel by pushing the parietal peritoneum in front of it. This division of herniæ into "congenital" and "acquired" has of recent years been severely criticised, more especially by Mr. R. Hamilton Russell of Melbourne who adduces evidence in favour of the belief that the presence of a pre-formed sac is the main factor in the causation of hernia during all periods of life.

Before offering any theoretical explanations concerning the conditions which predispose to the formation of a hernia it will be well to reconsider certain ascertained facts. It is only by dealing with a large number of cases that one is able to learn not only what is the usual type of hernia but also the different periods of life at which hernia most commonly occurs. Thanks to the labours of Mr. J. F. C. H. Macready, we have in his classical work, "A Treatise on Ruptures," these necessary facts before us. Mr. Macready's table of statistics comprises 20,999 cases of hernia occurring in

persons of all ages. An examination of these tables reveals the following facts. "Hernia may appear for the first time at any age but the greatest number of herniæ are developed during the most active period of life and age lessens their frequency. In the first year of life a larger proportion of persons are ruptured than in any subsequent year. A large increase in the production of hernia occurs in males between the ages of 11 and 15 and in females between the ages of 16 and 20. The surprising frequency of male inguinal hernia, which occurs nearly six times as often as the other divisions taken together." In 100 men ruptured 97·5 have inguinal hernia and 2·5 have femoral hernia. Among 100 women ruptured 60·3 have inguinal hernia and 39·7 have femoral hernia. "Inguinal hernia occurs with greater frequency on the right than on the left side throughout all periods of life, though this is slightly more markedly so in men than in women."

Let us now consider the distinction between the pre-formed and the ordinary sac of an inguinal hernia as seen at an operation. I believe most surgeons will agree with the following remarks which I quote from Mr. Macready's work: "It is not always possible to distinguish from one another, either in the living or in the dead, the two classes of sacs, and therefore much which has been observed and written of hernial sacs applies to them indifferently, without regard to their mode of origin."

When an inguinal hernia appears during infancy or early childhood the sac is generally regarded as being of congenital origin but when the hernia appears for the first time during adult life the sac is usually considered to have been acquired. Before attempting to differentiate between the two forms of sac in the inguinal region it will be advisable to study the formation and structure of a typically congenital and a typically acquired sac in order to compare them and clearly to understand in what respect they resemble or differ one from the other. For this purpose we will compare the sac of a hernia which we know to have been acquired with the sac of one which we know to have been pre-formed. In the case of a ventral hernia, such as is occasionally seen after laparotomy, which beyond dispute is an acquired hernia, the weakened structures of the abdominal wall corresponding to the line of incision gradually yield, a general bulging takes place, and the parietal peritoneum protrudes, stretching the cicatrix over it. At the point where the bowel has escaped through the abdominal wall the muscles and aponeurosis are atrophied, the mouth of the sac is wide, it has no neck, and consequently strangulation of its contents very seldom occurs. When, on the other hand, the bowel or omentum passes through the external abdominal ring into a sac formed by the tunica vaginalis such a sac was obviously pre-formed and of congenital origin. The neck of the sac is long and narrow which accounts for the frequency with which strangulation of the contents occurs. In a congenital hernia the different parts of the sac can be readily differentiated into the mouth, the neck, and the body but in an acquired hernia there is no neck to the sac, the mouth opening directly into the body. Apart from their difference in origin the distinction between a typically acquired and a typically congenital sac is abundantly clear. In an ordinary inguinal hernia as seen in the adult the general conformation of the sac very closely resembles that of a congenital hernia and differs in many important particulars from the sac of an acquired hernia, yet curiously enough it is regarded by almost all surgeons who have written on this subject as having been acquired.

During the last few years I have operated upon a number of infants and older children for the radical cure of inguinal hernia and the experience thus obtained has greatly shaken my faith in the orthodox surgical belief. I have found that in the child, and even in the infant, the sac is in the vast majority of cases entirely separate from the tunica vaginalis and, apart from its delicacy in structure, exactly resembles that found in the ordinary hernia of the adult.

A few months ago I operated on the same afternoon upon a man, 45 years of age, and upon an infant, two months of age, for the radical cure of inguinal hernia. The general appearance and arrangement of the sac were identical in each and yet in the case of the infant it can hardly be disputed that the bowel had descended into a pre-formed sac. Two years ago a young man was admitted to hospital on account of a strangulated inguinal hernia. He had never been ruptured before and the hernia had appeared suddenly whilst he was lifting a heavy piece of timber. I saw him shortly after his admission and operated within five hours of the accident. The hernia was scrotal, the sac being extremely thin and unconnected with the tunica vaginalis. Apart from its thinness the sac exactly resembled that ordinarily met with, yet it is much more probable that the bowel had descended into a still patent portion of the processus vaginalis than that a sac of such a size and shape had been suddenly acquired. Last year I operated upon a man, 49 years of age, for the radical cure of an inguinal hernia which had first appeared nine years previously. The appearance which the sac presented was very interesting; it was completely shut off from the tunica vaginalis but was connected with it by a firm fibrous cord one inch in length and one-eighth of an inch in diameter, which was pervious for a short distance at the upper part. In this instance, though the hernia had not appeared until the age of 40 years, it is obvious that the bowel had descended into an unobliterated portion of the processus vaginalis.

After some experience in operating for oblique inguinal hernia in infants, older children, and adults, I have been greatly struck by the marked resemblance as regards the shape, general appearance, and relationship of the sac. I have been quite unable to distinguish between a pre-formed and an acquired inguinal sac, for, I believe, the very good reason that they are one and the same thing. In many cases of ordinary inguinal hernia occurring in adult life the sac on dissection has shown undoubted evidence of its pre-formation. It is generally agreed that in infants and young children the sac of an inguinal hernia is usually pre-formed; and if my observations and those of others are correct—viz., that in adult life exactly the same kind of sac as that seen in the infant is the one usually met with, the inference is obvious: both have a common origin. In a person with a perfectly formed abdominal wall I believe it to be impossible for a hernia to occur.

It is well known that partial patency of the processus vaginalis may persist throughout life and I am anxious to know with what relative frequency this patency is found in the dead body of the adult quite apart from hernia, for the relative frequency with which this process remains patent during adult life forms the strongest or weakest point, as the case may be, in my line of argument. Unfortunately, I have been unable to discover any such statistics based upon a sufficiently large number of cases to prove the point. However, Mr. Macready, quoting from Professor F. C. Hesselbach, says: "At birth the serous canal is very often open on one or both sides, either totally or partially. At first it tends to close very rapidly, but after the third week more slowly. In adult life patency of the canal, which may be met with up to an advanced age, though not uncommon, is far rarer than in childhood and the calibre of the passage seems to be usually very narrow." To quote still further from Mr. Macready's work: "The size of the opening is, as a rule, larger on the right side than on the left and oftentimes the size is greater in older than in younger children; and this last fact implies that the tendency to obliteration may remain in abeyance and that the growth of the canal may keep pace with the growth of the child. This observation is of some consequence, for it assists to explain the abundant production of ruptures as the age of puberty is reached. Though complete or partial patency of the processus vaginalis is regarded as an important predisposing cause of rupture, at all events of those in early life; there can be no doubt, if the evidence from the examination of the dead be received, that hernia enters this passage in the minority of instances in which it remains open. If an unclosed canal was universally attended with rupture, the number of ruptures, as Engel remarked, would be very much greater than it is."

How then can we explain the fact that hernia occurs in some cases and not in others? Granted the existence of a potential hernial sac, I would suggest that the occurrence or not of a hernia largely depends upon two factors—the size of the opening at the internal abdominal ring and the strength of the muscles guarding it. It is unnecessary for me to enter into anatomical details as to the obliquity of the inguinal canal and the attachment of the internal oblique and transversalis muscles, which together with Poupart's ligament form a sphincter-like structure guarding the canal. Mr. Hamilton Russell has particularly emphasised this point. If in the case of patency of the processus vaginalis the opening at the internal abdominal ring be small and the muscles guarding it (which with some justice might be called the inguinal sphincter) powerful, then the probabilities of a hernia occurring are slight. If, on the

other hand, the opening is large and the inguinal sphincter weak, the probabilities of a hernia occurring are considerable. The frequent occurrence of inguinal hernia in infants would thus be explained.

The frequency with which hernia first appears about the age of puberty I would explain by the increased amount of exercise usually indulged in at this period, and so the muscles which under ordinary conditions are able safely to guard a patent internal opening are suddenly overtaxed and the bowel escapes. This will, of course, largely depend upon the size of the internal opening. In the case of a hernia appearing later in life the same reasoning would hold good. Though the processus vaginalis has been to some extent patent since birth, no hernia has appeared, for the internal opening was never large and the sphincter was well able to guard it, but with declining years and weakened muscles the sphincter at some critical moment fails and the bowel or omentum passes through. Hernia not infrequently makes its first appearance during convalescence from a long illness. Under these conditions it appears to me more reasonable to explain such an occurrence in the way I have endeavoured to rather than to suppose such a hernia to have been acquired.

If this explanation of the etiology of hernia is correct it clearly has some important bearing upon our methods of curing it, for our chief objects in operating should be completely to do away with any semblance of an internal opening or depression and at the same time to preserve the inguinal sphincter intact. Other things being equal, the operation should be performed very early in life so as to make sure that the funicular process is really closed and also to prevent subsequent weakening of the muscles guarding the opening from the descent of the bowel constantly stretching them.

Note.—Since writing this paper I have obtained some most interesting and valuable information, owing to the courtesy of my friend, Dr. Nathan Raw, physician to the Mill-road Infirmary, Liverpool, and the kind interest taken in the matter by Dr. R. A. Macleod, Dr. R. G. Wills, and Dr. Arthur Hendry, the resident medical officers. In 100 consecutive and in no way selected post-mortem examinations made at the Mill-road Infirmary, Liverpool, upon persons in whom during life there was no history or evidence of hernia, a potential hernia sac was discovered in the following 21 cases. The number of cases examined was 100—61 males and 39 females.

No. of case.	Age (years).	Sex.	Potential hernia sac.
1	48	Male.	Double inguinal and right femoral.
2	61	,,	Double inguinal.
3	46	,,	Left femoral.
4	57	,,	Right femoral.
5	39	,,	Right inguinal (contained piece of omentum).
6	55	,,	Left inguinal (contained piece of omentum).
7	42	,,	Left femoral.
8	29	,,	Right femoral.
9	44	,,	Double inguinal and double femoral.
10	30	,,	Right and left femoral.
11	63	,,	,, ,,
12	62	,,	Right femoral.
13	32	,,	Left inguinal.
14	40	Female.	Right femoral.
15	14	,,	Right and left femoral.
16	62	,,	Left femoral.
17	54	,,	Right femoral.
18	32	,,	,,
19	60	,,	Right and left femoral.
20	47	,,	Left femoral (contained piece of omentum).
21	56	,,	Umbilical (contained piece of omentum).

In most of the cases the unobliterated portion of the processus vaginalis testis was about one inch in length and the opening at the internal abdominal ring was so narrow as barely to admit a large probe. In others the opening was sufficiently large to admit the little finger, and in three of the cases the sac contained a small piece of omentum, which was not adherent and was readily withdrawn. In seven instances more than one sac was found and in Case 9 it will be noticed that an inguinal and a femoral sac existed on either side. In no case was an obturator or sciatic sac present.

Though the number of cases here dealt with is far too small to furnish any accurate information respecting the relative frequency with which a potential hernia sac may occur among persons in whom during life there is no evidence of a hernia (the proportion in this series being probably exceptionally high) still these cases certainly go a long way, if not the whole way, to prove the truth of Mr. Hamilton Russell's contention, that in all ordinary inguinal and femoral herniæ the sac is pre-formed and of congenital origin.

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FATAL RUPTURE OF A PYOSALPINX DURING LABOUR.

BY J. W. ROB, M.D. CANTAB.

THE following case is interesting in more ways than one. It is not often that an undiagnosed pyosalpinx ruptures during labour. The symptoms manifested were not those usually presented by cases of ruptured pyosalpinx. And the case shows how a medical man may, through no fault of his own, be involved in troublesome and painful circumstances against which he could not possibly have guarded.

On Wednesday, Dec. 6th, at 8.30 P.M. I was called to a woman in labour. My partner had died only two days previously and he had promised to attend the case. The woman, whom I saw for the first time that evening, was apparently strong and healthy. She had been married ten months. A monthly nurse was in attendance. I was told that labour began on Monday morning about 5 A.M. and that the membranes ruptured about noon the same day. Pains had been strong and frequent on Tuesday and nothing abnormal had been noticed. Nourishment was taken well on Monday and Tuesday. The woman had no sleep on Tuesday night. The nurse said that she had not sent for me before because she knew that the first labour was often a long one. At 8.45 P.M. on Wednesday the woman was pale and exhausted; her temperature was 98° F. and her pulse was 120 per minute. The presentation was left occipito-anterior and the head was engaged in the brim of the pelvis. The os was fully dilated. Between 8.45 and 9.30 P.M. there were four or five feeble pains which had no effect in moving the head so I sent for assistance and, chloroform having been given, delivered a healthy male child with forceps without any more trouble than a slight rupture of the perineum which was sewn up at once. Previously to the administration of chloroform the abdomen was quite soft and not tender. There had been no vomiting. The uterus contracted well and the placenta and membranes came away entire. A douche of 1 in 2000 perchloride of mercury was given. At 11.30 P.M. the patient had recovered from the anæsthetic and was quite comfortable and in very good condition.

On Thursday both mother and child were doing well. The mother had not been sick since midnight, had taken two pints of hot milk and some beef-tea, and had no abdominal pain or tenderness. The temperature was 99° and the pulse was 88. The baby had a large caput succedaneum but otherwise was very well. On Friday morning at 11 o'clock I saw the mother again. She had had a comfortable night but had vomited once at 10.30 A.M. and had also had a large very loose action of the bowels at the same time. The abdomen was not rigid or distended or tender and the uterus could easily be felt. The temperature was 100° and the pulse was 98. The child was crying a good deal and as this seemed to annoy the mother he was taken into another room. At 4.30 P.M. I saw the mother again. She had vomited twice since noon and the bowels had been opened four times. There was some pain of a colicky nature in the abdomen but there was no rigidity or distension and the uterus was easily felt. There was no tenderness in the abdomen. The tongue was clean and moist. Nothing abnormal could be detected in the thorax. The temperature was 99·6° and the pulse was 96. I gave a quarter of a grain of morphinæ tartras hypodermically and ordered a dessertspoonful of hot water

every hour by the mouth with the addition of ten minims of brandy in each spoonful of water. At 9.30 P.M. the woman was comfortable and free from pain. There had been no more vomiting and the bowels had not acted again. The temperature was 100° and the pulse was 100.

At 3.30 A.M. on Saturday I was sent for again. The woman had become much worse, had vomited repeatedly, complained of intense abdominal pain, and become much collapsed. She was clearly *in extremis;* the temperature was 98°, the pulse was 140, but the abdomen was not rigid or distended. There was slight tenderness on the left side of the uterus. The tongue was clean and moist. There was no dulness in the flanks. Hot-water bottles were applied to the abdomen and a quarter of a grain of morphinæ tartras and $\frac{1}{60}$th of a grain of strychninæ-hydrochloridum were given hypodermically. The patient never rallied and death occurred at 5 A.M.

Post mortem there was about an ounce of blood-stained serum in the pericardium and in each pleural cavity. The lungs, heart, brain, spleen, liver, and kidneys were healthy. The small intestine was hyperæmic in places. Round the left ovary and in Douglas's pouch and in the lesser sac of the peritoneum was some flaky lymph. The stomach, pancreas and duodenum, and the appendix were healthy. There were several old adhesions round the left ovary and Fallopian tube, both of which were deeply congested. A drop of thick yellow pus was escaping from the left Fallopian tube, which contained about half a drachm more of the same material. The interior of the uterus was quite healthy. I could obtain no history of any symptoms of salpingo-oöphoritis from any of the relatives.

The baby, having been taken out of the mother's room on Friday morning, was put to sleep on a cushion in an armchair in the kitchen. He was seen at 1 P.M. and was then all right, but at 2.30 P.M. he was found dead. A post-mortem examination showed that death was due to suffocation.

Weybridge.

HÆMATOLOGICAL AND CHEMICAL OBSERVATIONS IN A CASE OF SPLENO-MEDULLARY LEUKÆMIA UNDER X RAY TREATMENT,

WITH AN ACCOUNT OF THE HISTOLOGY OF THE HÆMOPOIETIC ORGANS AFTER DEATH.

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AT a laboratory meeting of the Pathological Society of London held at Claybury in July last a paper under the above title was read by me and will appear in due course in the published Transactions of the society. In view of the fact, however, that a preliminary communication on the same case was made to THE LANCET in January, 1905,[1] I propose here to record briefly the main results obtained during the latter history of the case.

The first series of x ray séances lasted from May 17th to August 8th, 1904, and at the end of that time the patient's general condition had enormously improved while the changes in the blood picture were most striking. The white cells fell from an average of 200,000 to an average of 20,000 per cubic millimetre in the course of six weeks and there was also a very appreciable rise of the red cells in the same time. The red cell maximum was not reached, however, till the middle of August when the white cells were already mounting slowly upwards after the suspension of the x rays. Arneth[2] in a recent paper has also noted this late response on the part of the red cells to x ray influence. During September, October, and November, 1904, the patient remained in a convalescent home where he enjoyed excellent health. Frequent blood examinations were made during this time and it was found that the white cells were rising very gradually and in a somewhat irregular fashion. At the end of November a level of 60,000 had been reached. It is an exceedingly suggestive fact that the suspension of radio-therapy for three months did little more than raise the total count of the white cells to one-third only of their numbers at the commencement of the treatment. It certainly shows that the radio-therapy had exerted an inhibitory influence on the proliferative functions of the blood-forming organs.

After the patient's return to hospital a second series of x ray séances was commenced on Dec. 1st, 1904, and again there was a remarkable response on the part of the blood elements. The white cells fell progressively in the course of six weeks to the normal, or rather subnormal, level of 7000. When this low level had been reached the question of the advisability of continuing the x ray treatment was raised, the risk being that the circulating blood might be completely depleted of leucocytes, and in the light of the recent animal experiments of Halber and Linser[3] to which I shall refer later, this fear would have been perfectly justified. However, no such effect took place. This low level proved again to be a position of unstable equilibrium and the white cells rose very slowly to a level of 12,000. It is impossible to say whether the white cells could have been retained for an indefinite period within normal limits, owing to the unfortunate intervention of an influenzal attack leading to the fatal conclusion. On Feb. 24th the temperature, which hitherto had run a consistently normal or subnormal course, rose to 101° F. This heralded an attack of bronchitis during which the temperature rose on one occasion to 102 5°. The clinical symptoms were not, however, very pronounced and the end came rather unexpectedly on March 8th—i.e., 14 days after the commencement of the intercurrent affection. One count only was made during the fatal illness and the white cells were found to have mounted up to 43,000. The leukæmic leucocytes had in fact reacted to the intercurrent affection somewhat more vigorously than normal leucocytes would but in the same direction. Now it is a well-established fact that intercurrent affections in leukæmia produce a great fall in the number of leucocytes but here in the leucopenic stage of leukæmia the reaction was in the opposite direction.

A necropsy was fortunately obtained and I am indebted to Dr. G. M. Duncan of the Pathological Department, University of Aberdeen, for notes of the necropsy and for the tissues which were kindly forwarded to me for microscopical examination. The opportunity was thus afforded me of comparing the organic lesions with those described by Heineke[4] Mosse and Milchner,[5] Halber and Linser,[6] and others in experiments on animals. Heineke found that the exposure of small animals such as mice to the x rays produced a destruction of the lymphoid follicles in the spleen and lymph glands. The nuclear detritus was taken up by phagocytes and the node was replaced by connective tissue and epithelioid cells. Prolonged exposure was followed by partial destruction of the granular cells of the marrow. Mosse and Milchner showed that in animals exposed to the x rays the bone marrow is profoundly influenced. The changes affect principally the cells of the neutrophile series which are greatly diminished in numbers, the surviving cells exhibiting great deficiency of granules. The experiments of Halber and Linser are even more remarkable. By prolonged exposure of small animals to the x rays they were able to deplete the circulating blood entirely of leucocytes (as measured by ordinary counting methods). The larger the animal the more difficult it was to free the blood of leucocytes and frequently in rabbits and dogs it was impossible to get lower counts than 1500 or 2000 by continued exposure. They maintained from examination of films that the destruction of leucocytes took place in the general circulation and not in the blood-forming organs. Further, fatal results sometimes ensued which they attributed to the evil effects of leucotoxins set free from the broken-down leucocytes. The serum of x-rayed animals had also the power of causing the destruction of leucocytes when injected into fresh animals. The question as to whether a destruction of leucocytes takes place in the general circulation is an important one. Most observers, with the exception of Grawitz,[7] Aubertin and Beaujard,[8] Weil and Aubertin,[9] are inclined to doubt that

[1] Ledingham and McKerron: THE LANCET, Jan. 14th, 1905, p. 71.
[2] Arneth: Münchener Medicinische Wochenschrift, Nos. 32, 33, 34, 1905.
[3] Halber and Linser: Ibid., April 11th, 1905.
[4] Heineke: Mittheilungen aus den Grenzgebeiten der Medicin und Chirurgie, Heft 5, 1905.
[5] Mosse and Milchner: Berliner Klinische Wochenschrift, No. 43, 1904.
[6] Loc. cit.
[7] Grawitz: Deutsche Medicinische Wochenschrift, No. 50, 1904.
[8] Aubertin et Beaujard: Comptes Rendus de la Société de Biologie, 1904, No. 21, p. 982, and 1905, No. 4, p. 177.
[9] Weil and Aubertin: Ibid., 1905, No. 25, p. 85.

intravascular leucolysis takes place to any great extent in leukæmia. At least, cytolytic changes in dried films have not been specially noted in the recorded cases but it is quite conceivable that in the lymphatic form of leukæmia more particularly large numbers of lymphoid cells are destroyed in the circulating blood. From Halber and Linser's experiments these latter cells appear to be the most susceptible to x ray influence. Is the diminution of the leucocytes in the circulating blood to be attributed to increased destruction of cells in the hæmopoietic organs or to inhibited production? If increased destruction is the cause one might expect to find evidence of this in the uric acid output. During the five months preceding the adoption of x ray treatment in our case frequent analyses of the uric acid output were made with a view to determine whether according to Horbaczweski's theory any relationship could be found between the purin output and the leucocyte count. At the same time estimations were made of the total nitrogen and total phosphoric acid. Before commencing these investigations it was anticipated that a stage in the progress of the disease might supervene in which the leucocytes might show a progressive tendency to diminish, so that one might definitely demonstrate whether a simultaneous rise in the uric acid took place as the result of leucocyte destruction. As already noted, however, no progressive diminution took place in the leucocyte count during these five months, although marked oscillations were frequent. As has been so frequently noted in leukæmia, the absolute amount of uric acid excreted was found to be much in excess of the normal but it was impossible to demonstrate constantly any rise in the uric acid as the immediate result of a temporary fall of the leucocytes lasting, perhaps, one or two days. Nor could any clue as to the occurrence of leucocyte destruction be obtained from the amount of phosphoric acid excreted. This was slightly higher than normal but it bore the usual proportion to the total nitrogen excreted.

When the leucocytes were progressively falling under x ray influence a further short series of urinary analyses was made. It was found that the total amount of urine passed per day had slightly increased. The total nitrogen and total uric acid were both relatively high but the percentage of uric acid nitrogen in the total nitrogen remained only slightly affected. The phosphoric acid output was also relatively high but its proportion to the total nitrogen remained as before. It may therefore be assumed that the fall of the leucocytes in our case was not the result of increased destruction but more probably of diminished production.

During the last few months brief reports of urinary analyses in the course of the x ray treatment of leukæmia have been recorded. Rosenberger[10] found a diminution in the uric acid while the leucocytes were falling. Schleip and Hildebrandt[11] found that the variations in the amount of uric acid passed were so great that no conclusions could be drawn. Strümpell,[12] Joachim and Kurpjuweit,[13] and Lossen and Morawitz[14] (in one fatal case) demonstrated an increase in the uric acid while the leucocytes were falling. The bulk of the chemical evidence, however, is in favour of the view that the x rays exert an inhibitory action on the hæmopoietic organs. What effects do the rays produce on the leucocytes and uric acid output of healthy persons? In this connexion Bloch[15] has recently reported a rise of the uric acid with a fall of the leucocytes in a case of chronic eczema exposed to the x rays. As this is merely an isolated observation it would not be desirable to draw any definite inferences at this stage. The subject demands further investigation. I shall now record briefly the post-mortem and histological findings in our case.

Both the lungs were much congested and in the right lung were several patches of catarrhal pneumonia. Both liver and spleen were enormously enlarged, the latter organ weighing 7½ pounds. The lymphatic glands on each side of the spine, both in the abdomen and thorax, were also enlarged and varied in size from that of a pea to that of a large bean. The bone marrow, as seen in the sternum, vertebræ, and ribs, had a pale pink colour. Without entering into detail it will be sufficient here to note the more important changes in the blood-forming organs.

Spleen.—Malpighian follicles were practically absent. There was a marked development of coarse connective tissue pervading the spleen pulp but this fibrotic process had not advanced to the degree which one generally finds in chronic cases of spleno-medullary leukæmia. The predominant cellular constituents of the pulp were large, mononuclear cells with intensely basophile protoplasm. Their nuclei were round or oval and slightly vesicular. In their morphology they resembled the basophile myelocytes of Dominici. Numerous mitotic figures in all stages were seen in these cells. Fully developed cells of the neutrophile series were very scarce.

Lymph gland.—No nodes were visible. Large basophile cells were here also predominant but there were also enormous numbers of giant cells mostly of the megakaryocyte type. Here and there were noted small groups of cells with ill-defined contours containing in their interior two or three densely stained half-moon-shaped bodies. It is probable that these cells represent degenerated megakaryocytes but it is difficult to explain how the broken-down nuclei should assume such regular semicircular forms.

Marrow from the sternum and ribs.—So far as its cellular constituents were concerned the marrow might be said to be in a markedly hypoplastic condition. Bony lamellæ and strands of connective tissue traverse the section, leaving small isolated cellular areas. Small or large lymphocytes were most numerous. Large basophile cells were scarce and giant cells were not nearly so numerous as in the lymph glands. Nucleated red cells were also very scarce.

Liver.—The interacinar capillaries were quite choked with leucocytes, the great majority of which consisted of the large basophile cells met with in the spleen and glands.

Can we bring these changes into line with those met with in the hæmopoietic organs of experimental animals that have been exposed to the x rays? The absence of Malpighian follicles in the spleen is a common feature in chronic spleno-medullary leukæmia and hence cannot be regarded *per se* as the result of radio-therapy. The great scarcity of lymphoid elements in the spleen pulp is certainly a conspicuous feature but the most remarkable change is the substitution of proliferating undifferentiated basophile myelocytes for the fully formed neutrophile elements which one usually finds in the spleen of chronic spleno-medullary leukæmia. In cases of acute leukæmia these cells have been found in active proliferation in the bone marrow, spleen, and lymph glands (*vide* Aubertin[16]) and one might presume that the real cause of death was an attack of acute leukæmia superposed on the chronic form during the leucopenic stage. The condition, however, permits of another, and to me more probable, explanation. During the first series of x ray séances the percentage of cells of the neutrophile series rose (the increase affecting the polynuclear elements), while the lymphocyte percentage fell. After the suspension of the rays in August the lymphocyte percentage began again to mount upwards. On the resumption of the x ray treatment in December the neutrophile percentage rose markedly while the lymphocyte percentage fell, but the change was only transitory. When the total leucocyte count was approaching normal limits the polynuclear percentage fell markedly while the lymphocyte percentage rose. So long as a relatively high leucocyte count obtained, the main effect of the x rays would be on the lymphocyte series, as Heineke noted. Now, from the histological appearances it would seem that the spleen and lymph glands were the hæmopoietic organs most actively functionating. Thus, in spite of the inhibitory action of the rays on the myeloid function of the spleen there would result, owing to the destruction of the more susceptible lymphocytes, a relative increase of fully formed polynuclear cells in the circulating blood. When, however, the leucopenic stage intervened during the second series of séances, the ever-increasing tendency to diminished production must have considerably curtailed the myeloid function of the spleen or its power of sending forth into the circulation more or less fully formed neutrophile cells. Moreover, what one might call the Mosse and Milchner effect already referred to would come into play. Hence the presence in such numbers of these basophile indifferent cells in the spleen and glands, accompanied by a diminution in the fully formed neutrophile cells of the circulating blood, might not be so unexpected a

[10] Rosenberger: Centralblatt für Innere Medicin, No. 40, Oct. 7th, 1905.

[11] Schleip and Hildebrandt: Münchener Medicinische Wochenschrift, No. 9, 1906.

[12] Strümpell: Fortschritte aus dem Gebiete der Röntgenstrahlen, Band viii., Heft 3, 1905.

[13] Joachim and Kurpjuweit: Deutsche Medicinische Wochenschrift, No. 49, 1905.

[14] Lossen and Morawitz: Deutsches Archiv für Klinische Medicin, Band lxxxiii., Hefte 3 and 4.

[15] Bloch: Ibid., Band lxxxiii., Hefte 5 and 6.

[16] Aubertin: La Semaine Médicale, No. 24, 1905.

phenomenon. Whether such a spleen would serve the organism more beneficially than a more fully developed myeloid organ is difficult to decide. Most probably it would not, as undoubtedly the needs of the body would be better served by an organ whose power of manufacturing and sending into the blood stream an excess of fully developed neutrophile cells was well maintained.

The above considerations lead me to think that in the interests of the patient it would be advisable to exercise the greatest caution in continuing x ray treatment once the total leucocytes have attained normal limits. This is all the more necessary when one remembers the startling results of Halber and Linser's experiments which, though still lacking confirmation, suggest to us the greatest circumspection in the employment of radio-therapy under the conditions indicated; indeed, in the very few recorded cases of leukæmia which have ended fatally during or after x ray treatment the effects of leucotoxic products or liberated ferments have been assigned as exciting causes. As yet the only fatal case in which an accurate histological examination of the organs has been made is that recorded by Lossen and Morawitz. Krause[17] reported shortly in one case that it was impossible to demonstrate in the hæmopoietic organs changes which are not usually associated with leukæmia, and Lommel[18] who examined the spleen in a case of pseudo-leukæmia which had been exposed to the rays, noted that the organ was very poor in lymphocytes.

Lossen and Morawitz's case did not respond satisfactorily to the x rays. The leucocytes were profoundly influenced but the general condition did not improve. The histological changes they reported were briefly as follows. The spleen pulp showed a great scarcity of leucocytes, especially of myelocytes and lymphocytes. Fibroblasts were numerous. The lymph glands were also greatly deficient in lymphatic elements. The marrow especially showed great hypoplasia with regard to its myeloid and lymphatic elements. The interstitial tissue of the marrow was also increased. As a result of their findings the authors believe that in certain cases the x rays may give rise to a recognisable hypoplasia of the blood-forming organs. No satisfactory explanation has yet been given of the enormous improvement which almost invariably occurs in the general condition of the patient under the x rays. It is at least difficult to bring it into relationship with the blood changes. Of course, on the assumption of Senn and Ahrens that the x rays inhibit the development of, or actually destroy, the hypothetical parasite of leukæmia (Löwit), this improvement in the general condition would find ready explanation.

Certain investigations (to be recorded elsewhere) which I have made on the rôle played by the leucocytes of splenomedullary leukæmia in the process of phagocytosis of bacteria have shown that in the leukæmic serum the substance preparing the bacteria for ingestion by the phagocyte ("opsonin" of Wright and Douglas) is generally in normal amount as measured by normal leucocytes, while a very much lower index is obtained when measured by the patient's own phagocytes. The myelocytes have exceedingly feeble phagocytic power and hence any factor that increases the number of ripe polynuclears in the circulating blood must also render the normal supply of opsonin more available for purposes of efficient phagocytosis and removal of effete matter from the tissues. It may be noted that in chronic lymphatic leukæmia the conditions appear to be reversed. At least in the two cases which I had the opportunity of examining frequently the polynuclear leucocytes, though constituting only 2 or 3 per cent. of the total, had almost double the phagocytic power of leucocytes of healthy people. In these cases the true opsonic indices as measured with the patient's own serum and phagocytes were relatively high. In performing these tests staphylococci and tubercle bacilli were employed.

Elstree.

[17] Krause: Fortschritte aus dem Gebiete der Röntgenstrahlen, Band viii., Heft 3, 1905.
[18] Lommel: Münchener Medicinische Wochenschrift, 1905, p. 904.

SEAMEN'S HOSPITAL, GREENWICH.—On Thursday, Feb. 15th, the members of the local branch of the British Medical Association are to visit the Seamen's Hospital, Greenwich, in connexion with the new post-graduate school which has just been established at that institution. The staff of the hospital wish it to be known that any medical man, whether belonging to the local branch or not, will be welcomed. There will be an exhibition of cases and it is intended to hold the meeting at about 4 P.M.

A CASE OF BILHARZIA INFECTION OF THE VERMIFORM APPENDIX.

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With a Pathological Report by ERNEST H. SHAW, M.R.C.S. Eng., L.R.C.P. Lond.,
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THE patient, a well-developed but rather anæmic man, aged 36 years, was a goods clerk in a railway station in South Africa. He was admitted to St. Bartholomew's Hospital on June 24th, 1905, on account of a sinus in the right gluteal region. The sinus had persisted since January, 1904, when an abscess was opened there by Dr. J. B. S. Greathead at the Albany General Hospital, South Africa. He had come from South Africa to have the sinus cured. His history was as follows. In January, 1899, he had a slight attack of appendicitis which cleared up after rest in bed for ten days. In April, 1902, a large tender swelling developed in the right iliac region; he had fever and was constipated. He was sent to the Albany Central Hospital by Dr. E. G. D. Drury. At this time the swelling could be felt per rectum; it was painful and fluctuated. The pelvic swelling became smaller and the patient was discharged in six weeks without any operation being performed. But the swelling never entirely disappeared and the patient was very weak and unable to do any work till October, 1902, when the abscess pointed on the right lumbar region. Two incisions were made into this between the last rib and the iliac bone and some foul-smelling, dark brown pus was let out. In December, 1902, he was able to work again, wearing a drainage-tube in the sinus.

In January, 1904, another abscess developed in the upper part of the right gluteal region outside the posterior superior spine of the ilium and the patient was readmitted into the Albany Hospital. The appendix region was then explored by the usual oblique incision in the anterior abdominal wall. Dense adhesions were found and a fluctuating swelling was discovered behind the pelvic peritoneum in the region of the sciatic notch. The anterior incision was therefore closed. The abscess in the right buttock was opened up and its cavity was found to lead into the pelvis through the sciatic notch into an abscess in front of the sacrum, whence several ounces of dark fæcal smelling pus were let out. This sinus was still discharging on the patient's admission to St. Bartholomew's Hospital under Mr. C. B Lockwood in June, 1905. His condition was as follows. There was a scar about four inches long in the anterior abdominal wall, which was the seat of a ventral hernia. Behind there were four scars in the right lumbar and gluteal regions, in the lowest of which there was a sinus leading forwards and inwards for about four inches. The sciatic notch could be felt with a probe but the bone was not bare. There were resistance and tenderness in the right iliac fossa. The urine was natural and did not contain blood or pus cells although systematically examined.

On July 14th, as the sinus showed no signs of closing, Mr. Lockwood explored the appendix region through the scar in the anterior abdominal wall. After a long and tedious search, lasting over an hour on account of the dense adhesions, the proximal end of the appendix was found very firmly adherent to the posterior pelvic wall near the sciatic notch; this part of the appendix was removed. The distal end had apparently sloughed away. A small drainage-tube was left in and the abdominal wall was sutured in layers. The patient left the hospital five weeks after the operation; the abdominal wall had soundly healed. The posterior sinus was healing quickly and was only about one inch in length.

On cutting sections of the appendix ova of bilharzia hæmatobia were seen; they are shown in the accompanying micro-photographs (Figs. 1 and 2). There was nothing to suggest bilharzia infection of the genito-urinary tract or of the rectum; the patient neve had diarrhœa and no blood or mucus was ever seen in his stools. Apart from the extreme rarity of bilharzia infection of the appendix, this case is instructive because it throws some light on the way by which the parasite may enter its host.

Dr. F. M. Sandwith, in an article on bilharziosis,[1] points out that there are three possible routes by which the myracidium or embryo trematode may arrive at its destination: (1) by the mouth; (2) by the skin; and (3) by the urethra or rectum. Of the above, Dr. Sandwith thinks the mouth is the most probable.

1. People who do not bathe in the rivers, ponds, &c., and who do not drink water which has not been boiled, can live

FIG. 1.

Magnified 65 diameters. Shows ova in clumps just outside the muscularis mucosæ, and two internal to it.

in the countries in which this disease is endemic (e.g., Egypt, South Africa, Syria, &c.) and seldom contract it. Against this theory may be urged that: (*a*) bilharzia eggs or embryos have never been discovered in any molluscs or other articles of diet—in fact, the intermediate host of the bilharzia is unknown, if, indeed, there be one; and (*b*) that the embryo or myracidium which usually hatches in about half an hour after the ovum is voided in the urine is quickly killed if it is placed in an acid solution of equal strength to the gastric juice.

FIG. 2.

Magnified 210 diameters. Two ova just outside muscularis mucosæ.

2. Infection by the skin. Dr. John Harley, who first discovered bilharzia in South Africa in 1864, supported this view. I do not know of any other evidence in the favour of it except, if we may judge from analogy, ankylostomum duodenale has lately been shown to attack its host in this manner.

3. The third possible means of entry is by the urethra or less often by the rectum.

[1] Practitioner, October, 1904.

Dr. Sandwith states that in the Cairo hospitals the proportion of males to females suffering with this disease is 24 males to one female; and also that when females are attacked it is often the vagina alone that is affected. There is also a good deal of evidence in favour of the disease being contracted when bathing. The only place in the human body where the bilharzia has been found sexually active is in the portal veins; it would be easier for the embryos to get into the portal system from the urethra or rectum than from the mouth, where they would have to traverse the acid gastric juice.

In the case which I am describing we unfortunately only found the bilharzia ova in the appendix after the patient had left the hospital and was on his way to South Africa, so no special search for bilharziosis could be undertaken. However, the patient had incidentally said that he had frequently bathed since he had had the sinus in his back.

From the above facts I conclude that the patient first had an attack of appendicitis, which eventually left him with a sinus, leading to an abscess cavity, in close connexion with the proximal part of his appendix, and that afterwards the sinus was the means of entry of the bilharzia while he was bathing. This is, I think, a more probable explanation than that the original appendicitis was due to bilharzia infection.

On looking through the recent literature on the subject I have been unable to find any account of a case of primary infection of the vermiform appendix with bilharzia. Dr. H. A. Kelly, in his treatise on the appendix, mentions cases in which each of the common parasitic worms that are found in the human body, including ascaris lumbricoides, tapeworms, and echinococcus, was found in the appendix. Thread-worms are not by any means so rare as the above, especially in children. Dr. Kelly also mentions that Aireton had a case of bilharzia of the appendix. I have been unsuccessful in tracing this further as no reference is given. Mr. F. R. S. Milton, surgeon to the Kasr-el-Ainy Hospital, Cairo, in a series of lectures on the Surgery of Bilharziosis[2] does not mention any case in which the appendix was the seat of infection. Mr. Milton, however, reports a case in which the only manifestation of the disease was a sinus leading from the buttock to the sacrum. How far the case is analogous to the one now recorded it is impossible to say.

PATHOLOGICAL REPORT BY MR. SHAW.

Macroscopic.—The specimen is that of a vermiform appendix about two inches in length; it is about one-third of an inch in diameter; its peritoneal and muscular coats are torn in places, exposing the mucous membrane, and its peritoneal surface is discoloured and covered by old adhesions. A piece was cut out from each end after being hardened in Müller's fluid and microscopic sections were prepared.

Microscopic examination.—(*a*) *Proximal end.*—The lumen of the appendix is small and contains numbers of cast-off epithelial cells and leucocytes embedded in mucus, the lining epithelium is intact, and the glands of the mucous membrane are very numerous. A few nodules of lymphoid tissue are present. Outside this the submucous layer contains large numbers of wide lymphatic spaces. The muscular coats are of normal thickness and are deficient in places, having been torn during the removal of the appendix. The peritoneal coat is irregularly thickened and contains many small round cells; blood-vessels are numerous and large. There are collections of small round cells in all the coats of the appendix and dilated lymphatic vessels full of leucocytes are also seen. The evidences of inflammation are present mostly in the outer part of the wall of the tube. In the submucous coat immediately outside the muscularis mucosæ there are numbers of darkly-stained bodies grouped together in some places in colonies of from four to eight in number; some are lying singly and some in pairs. The bodies are darkly stained with hæmatoxylin and lie in the connective tissue spaces. Seen in their long diameter they are about 0·1 millimetre in length and are oval in shape, some with rounded ends, others with tapering extremities, others again have one end rounded and the other prolonged to a sharp point. In several instances there is seen a kind of blunt spine on one side. On cross section the bodies are round. With the low power (Leitz's $\frac{1}{3}$) a definite envelope can be made out and inside this there is in some of the bodies a mass of broken-up structureless material, while in others there are

[2] Journal of Tropical Medicine, June and July, 1902.

collections of round granules about one-third of the size of a red blood corpuscle. Stained with methylene blue these granules are dark blue in colour, and around them and filling up the remainder of the envelope is a structureless hazy-looking mass lightly stained with blue. The envelope is also stained deeply blue. Some of the bodies are distorted and broken up and, from their staining reaction, give one the impression that they have undergone some degenerative change—i.e., calcareous degeneration. With the high power (Leitz's $\frac{1}{12}$) the granules and the definite chitinous-looking wall can be seen much better. A few of these bodies, which correspond exactly in size and shape to the ova of the bilharzia hæmatobia, and are no doubt the ova of that worm, are seen in the lymphoid tissue of the mucosa, and there are many in the peritoneal coat. None are seen in the lumen of the appendix, nor can any be seen in the muscular coats.

(*b*) *Distal end.*—The tissues show very little evidence of inflammation and there is no ulceration of the mucosa. But the ova are present in the same situations and in large numbers. This points to an invasion of the whole length of the wall of the appendix by the ova.

The accompanying illustrations, which were prepared by Mr. Albert Norman, show the general distribution and structure of the ova. Another section has since been made from about the middle of the tube and shows the same appearances with, in addition, a very interesting feature—that is, an ovum in a lymphoid nodule and partly surrounded by large multinucleated giant cells.

We are much indebted to Mr. Lockwood both for his kind help in the preparation of this article and also for his permission to publish it.

St. Bartholomew's Hospital.

A CASE OF TORSION OF THE TESTICLE.

BY R. M. GOING, F.R.C.S. ENG.

With Notes on the Pathological Condition in Three Specimens by ARTHUR KEITH, M.D. Aberd., F.R.C.S. Eng.

THE patient, aged 17 years, was first seen on Sept. 11th, 1905, for pain and swelling of the left side of the scrotum. It was difficult to get a complete history as the lad was mentally deficient since birth. About four years previously he had a blow on his scrotum which became swollen; he was attended by a medical man who kept him in bed till the swelling had disappeared. Several times since then he complained of pain in his scrotum but not severe enough to cause him to lie up. For some months past his mother noticed that his gait had been different from what it was previously—namely, he walked with his thighs kept close together. On Sept. 9th he complained of pain in the left side of his scrotum after defæcation. On the 11th I first saw him. The left side of his scrotum was swollen; the skin over it was red and slightly œdematous; it was very tender and the swelling extended up as far as the external abdominal ring, but the spermatic cord could be distinctly felt above the swelling. His pulse and temperature were normal and he had no other symptoms. It appeared to me to be a case of acute orchitis but I could not find any satisfactory cause for it. On the 12th he was seen by my partner, Dr. F. H. Alexander, who found the local condition much the same. The patient, however, had vomited several times and complained of headache; his bowels had not acted since the 9th and there was difficulty in micturition. On the 13th I again saw him; the local signs were as before, though the swelling was somewhat larger and there was a bluish discolouration of the skin over the testicle. We came to the conclusion that the case was one of torsion of the testicle. On the 14th I made an incision over the swelling; the tissues were greatly œdematous and on exposing the tunica vaginalis it was found to be greatly enlarged and adherent to the surrounding tissues. On opening the tunica vaginalis, which was greatly thickened, a dark purple-coloured mass was seen in front, which afterwards was found to be the globus major of the epididymis, and behind it was the testicle of a fairly normal colour and not much enlarged. There was very little, if any, fluid in the tunica vaginalis. I then dissected the tunica vaginalis from the surrounding parts and having ligatured the cord with fine silk close to the external abdominal ring excised it. A small drainage-tube was placed in the lower end of the scrotum through a small incision. The original wound was closed with silk-worm-gut sutures and dressed with cyanide gauze. The drainage-tube was removed in 48 hours and the wound healed by first intention, the patient being allowed up on the fourteenth day. Since then he has been quite well and walks normally.

The case is interesting from the following points. 1. The rarity of the condition, only two cases occurring at the London Hospital in the last six years. I can find very few recorded cases, the last one being by Mr. G. H. Edington in THE LANCET of June 25th, 1904, p. 1782. 2. Recurring attacks with apparent recovery for several years. 3. The difficulty of diagnosis with an incomplete history from orchitis. 4. The apparent confusion between this condition and that of torsion of the spermatic cord.

Notes by Dr. KEITH.—With the addition of Mr. Going's case there are now three specimens in the London Hospital Museum representing strangulation of the testicle caused by the twisting of an abnormally long and narrow testicular mesentery. The normal attachment of the testicle is shown in Fig. 4; the whole length of the posterior border of both testicle and epididymis is bound firmly by a mesentery containing much fibro-muscular tissue between its widely separated layers. It is impossible to conceive that the normal attachment of the testicle could become twisted so as to give rise to strangulation in any circumstances whatsoever. Mr. W. McAdam Eccles[1] and Mr. E. M. Corner[2] attribute the possibility of such a twisting to the presence of such an elongated mesentery as is frequently found in imperfectly descended testes and this explanation I believe to be right.

So far I have not used the term "mesorchium" because, strictly speaking, it should not be applied to the mesentery that binds the testicle and epididymis to the posterior wall of the tunica vaginalis; that attachment represents the common mesentery of the testicle and of the Wolffian body, out of which the epididymis is developed. At first the testicle and Wolffian body have each their mesentery, which even then, however, fuse at their bases to form a common mesentery, but in the normal course of development in the male these bodies approach each other and their independent mesenteries disappear. I would willingly overcome any scruples about the strict use of the term mesorchium and apply it to the mesentery that normally binds the testicle to the tunica vaginalis and cord were it not that Mr. Corner[3] has figured the occurrence of a true mesorchium (see Fig. 6), which binds the testicle to the epididymis and common mesentery, just as the mesovarium binds the ovary to the broad ligament. In the female the mesentery of the Wolffian body forms the mesosalpinx; the basal part of the broad ligament represents the common mesentery.

A search amongst comparative and embryological material has not brought to light any animal in which the male genital gland is attached by a long narrow mesentery such as occurs in the three cases figured in Figs. 1, 2, and 3. But there is certainly one error of development in these cases, a malformation or maldevelopment of the gubernaculum testis. In Fig. 5 it will be seen that the gubernaculum grows up not only within the posterior or caudal end of the common mesentery of the genital gland, but also within the mesenteries of the Wolffian body and mesorchium and seizes the globus minor of the epididymis and caudal or posterior pole of the testis. A remnant of the gubernaculum is seen in the adult testis in Fig. 4 (7). In none of the three cases of strangulation of the testicle due to twisting dealt with here was there any trace of the gubernaculum; it is evident in Figs. 1 and 2 that the gubernaculum had laid hold of, not the testis and epididymis, but of the vas deferens which is seen to make a loop on the tunica vaginalis; further, it is inconceivable that a gubernaculum could ever have reached the testicle through such attachments as are shown in Figs. 1, 2, and 3. It is probable that such genital glands are provided *ab initio* with abnormally long mesenteries and that the gubernaculum seizes the peritoneum near the mesenteric base, but the elongated, pedunculated form of the mesentery of the testicle in these cases is produced on the arrival of that organ at the internal abdominal ring. The

[1] Mr. W. McAdam Eccles: The Imperfectly Descended Testes, 1903.
[2] Mr. E. M. Corner: The Wandering Testicle, Clinical Journal, vol. xxv., 1904-05, pp. 302-04.
[3] Ibid.

FIG. 1.

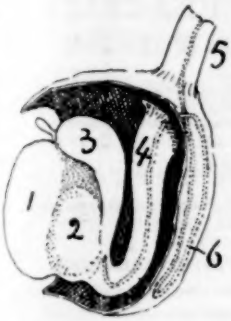


FIG. 2.

FIG. 3.

FIG. 4.

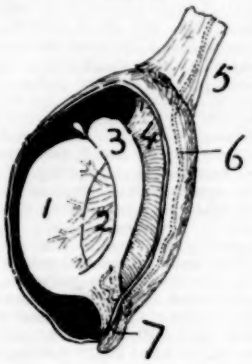


FIG. 5.

FIG. 6.

Fig. 1. Mr. Going's case. Fig. 2. Dr. W. M. Sing's case. Fig. 3. Mr. H. L. Barnard's case. Fig. 4. Showing the normal attachment of the testicle and remnant of the gubernaculum. Fig. 5. The relationship of the normal gubernaculum to testis and epididymis (from a seventh month fœtus). Fig. 6. An adaptation of Mr. Corner's diagram of the "wandering" testicle. 1. Testicle. 2. Swelling caused by the engorgement and thrombosis of the veins shown in Fig. 4. 3. Epididymis (globus major). 4. Mesentery of testicle, elongated so as to represent an intra-tunicate part of the cord in Figs. 1, 2, and 3. 5. The spermatic cord. 6. The vas deferens which makes a loop on the tunica vaginalis in Figs. 1 and 2. 7. Remnant of the gubernaculum in adult. 8. Gubernaculum of a seventh month fœtus. The caudal pole of the gubernaculum is normally smooth and has no adhesions to the surrounding parts. In Fig. 1 the twisting has been undone and the testicle restored to the position which it probably occupied during health.

gubernaculum in such cases cannot exert its strength directly on the testis to pull it through the abdominal wall but indirectly by means of the peritoneum and during the exercise of its force an elongation and narrowing of the mesentery of the genital organ would probably be produced. In short, I regard these testes which undergo torsion as allied with those which do not descend. Both are testes in which there is a maldevelopment of the genital mesentery and of the gubernaculum. When such testicles do descend into the scrotum they do so at the expense of an undue elongation of their mesentery during their passage through the inguinal canal.

Recently Mr. J. W. Dowden[4] has described several cases similar to those figured here; a case is also well described by Mr. Edington.[5] Dr. Grünert[6] gives the details of one case and a summary of 22 others. More recent additions to the continental literature will be found in the accounts given by Dr. Heinrich Mohr[7] and Dr. Hugo Klinger.[8] The left testicle is apparently more frequently the site of torsion than the right but as the side is not always given full statistics are not available. In the present cases two were on the right and one on the left side. The extent of the torsion varies; it is frequently 360°. The twist is commonly towards the mid-line of the body, the globus major of the epididymis turning inwards and downwards. The majority of cases occur at or just before puberty.

Littlehampton.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PUERPERAL SEPSIS DUE TO THE BACILLUS COLI COMMUNIS.

BY A. KNYVETT GORDON, M.B. CANTAB.,
LECTURER ON INFECTIOUS DISEASES IN THE UNIVERSITY OF MANCHESTER.

THE patient, a primipara, was admited to Monsall Hospital, Manchester, on Dec. 6th, 1905, as a case of puerperal sepsis. She had been confined on Nov. 29th, a midwife only having been in attendance. Apparently the labour was normal and of short duration. On the fifth day after confinement she is stated to have had a rigor and on the sixth day the temperature was 102° F. Notwithstanding this, a medical man was not called in until the seventh day, when he at once notified the case for removal to hospital. On admission, the patient was apparently moribund; she was almost entirely comatose and obviously was suffering from intense septicæmia; there were marked anæmia and extreme abdominal distension. The uterus reached to the level of the umbilicus and was soft and flabby. There was a slight amount of fœtid purulent vaginal discharge. The leucocyte count was 10,731. The patient was anæsthetised at once and examined in the operating theatre; cultures were taken from the interior of the uterus. There was a small tear in the perineum and also a slight amount of laceration of the cervix. The uterus was dilated and its walls were extremely thin and friable. Beyond some undue roughness of the placental site and general endometritis nothing abnormal was found. The whole endometrium was carefully removed with a sharp curette down to the muscle and the raw surface was rubbed with undiluted izal fluid. As the uterus did not show any signs of contraction after the curetting a douche at a temperature of 120° was administered, but this also produced no reaction. The uterus was packed with 10 per cent. izal gauze. 100 cubic centimetres of polyvalent antistreptococcic serum, prepared from puerperal cases only, were administered. On the next day the patient was markedly worse; the temperature was 105° and there was a rigor lasting for 20 minutes. In the cultures nothing whatever but bacillus coli communis was found. Accordingly

[4] J. W. Dowden: Torsion of the Testicle, Brit. Med. Jour., April 29th 1905.
[5] Mr. Edington: THE LANCET, June 25th, 1904, p. 1782.
[6] Dr. Grünert: Torsion des Samenstranges, Münchener Medicinisch Wochenschrift, No. 43, 1904, p. 1912.
[7] H. Mohr: Ibid., No. 43, 1904, p. 1913.
[8] Hugo Klinger: Ibid., Band lii., 1905, p. 393.

100 cubic centimetres of serum prepared from a horse which had been injected with five pure cultures of bacillus coli communis (all of which had been obtained from cases under my own observation) were administered. The effect was most marked; on the next day the temperature had fallen to 100° and the patient was obviously much better; consciousness had returned and the tongue was cleaning, and she expressed a desire for solid food. From this point she made an uninterrupted recovery and was discharged from hospital on Jan. 10th, 1906. There was then no sign of pelvic inflammation and the uterus was freely moveable and of normal size. The patient was well and strong.

I have elsewhere[1] pointed out that bacillus coli infection, apparently subsequently to, and not at the time of, delivery is more common than is perhaps usually supposed. In this case it was obvious that the midwife was responsible for the infection, and the length of the incubation period—four days—is in favour of infection having occurred by contact between dirty clothes and the unprotected external genitals subsequently to delivery, rather than from manual examinations at the time of birth.

I have recorded this case as I have never previously met with a case in which bacillus coli was the only organism found and in which the reaction to this serum was so well marked, though I have frequently given it, along with anti-streptococcic serum, to cases in which both organisms were present. In this case antistreptococcic serum was administered empirically, as I thought it best not to wait for the result of the cultures. I should add that the patient's blood was examined bacteriologically before the operation, 20 cubic centimetres being abstracted from the basilic vein, but it was found to be sterile. Both sera were prepared by Dr. Dowson, the director of the Wellcome Physiological Research Laboratories.

Manchester.

ENLARGED GLANDS OF THE NECK SUCCESSFULLY TREATED BY THE X RAYS.

BY MILWARD E. DOVASTON, M.R.C.S. ENG., L.S.A.

THE patient was a girl, 18 years of age, whom I first saw in September, 1904, giving a history of an attack of scarlet fever in May, 1900, followed in a few months by gradual swelling of the glands of the right side of the neck. After pursuing several methods of treatment an operation for removal was undertaken in 1902. Early in 1903 the glands on the left side of the neck became enlarged in the same manner as the right and remained so until she came to me. She then had a conglomerate mass of enlarged glands, varying in size from that of a walnut to that of a hen's egg, extending from the angle of the jaw on both sides and meeting under the chin. They were hard, elastic, and moveable and diminished in size from above downwards. On the right side of the neck were two cicatrices, one eight inches long horizontally and another five inches long vertically, where removal had been attempted. There was no history of tuberculous disease obtainable. Treatment with the x rays was begun on Sept. 26th, 1904, and continued until July, 1905. The exposures were given for the first two months four times a week, afterwards three times, and the last five months twice a week. The improvement was at first evident in the disappearance of the tissues binding the glands together, after which the individual glands became more definite. The glands themselves then gradually lessened and eventually disappeared, leaving a perfectly formed neck on either side which has remained so up to Feb. 1st, 1906.

Hendon.

[1] Public Health, December, 1905.

THE ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND.—The annual dinner of this association will be held at the Trocadéro Restaurant, London, W., on Feb. 23rd at 7 for 7.30 P.M. Mr. C. St. Aubyn-Farrer, the President, will occupy the chair. The President of the Royal College of Surgeons of England and the President of the Royal College of Surgeons of Edinburgh have signified their intention of being present. The honorary secretary of the dinner committee, Dr. E. N. Féré, 12, Northampton-square, London, E.C., will be pleased to give further particulars.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE PRESENTING THE SYMPTOMS OF GASTRIC ULCER WHICH FOLLOWED THE INGESTION OF AN IRRITANT.

(Under the care of Dr. R. G. HEBB.)

FOR the notes of the case we are indebted to Dr. Frederick W. Price, medical registrar.

A young woman, a housemaid, 21 years of age, was admitted to Westminster Hospital under the care of Dr. R. G. Hebb on Nov. 20th, 1905, complaining of pain in the stomach and vomiting of blood. On inquiry the following history was obtained. The patient had been subject to occasional attacks of bronchial catarrh until she reached the age of 14 years; otherwise she had always been healthy. 18 months before admission she sustained a sprain of the left wrist, for which she consulted a medical man, who prescribed an external application. Owing to a mistake the patient swallowed an ounce of the fluid three times a day for nearly two days. Immediately after taking the first dose a dry feeling in the throat was experienced, accompanied by a burning and prickling pain, and soon followed by a painful sense of constriction in the throat and gullet. Vomiting quickly supervened, the vomit being tinged with blood. The patient suffered from severe colicky pains in the abdomen which were worse on pressure. The muscles of the abdomen were tense and there was great thirst. These symptoms recurred after each dose of the irritant; the bowels became constipated and micturition was painful. The tongue was coated and the breath was offensive. The vomiting, abdominal pains, and constipation continued after the poison was stopped. The patient was kept in bed for a fortnight, at the end of which period there was considerable hæmatemesis. All the symptoms had completely disappeared in four weeks but a week later the patient "caught a cold" and began to suffer from a pain occupying a small area in the epigastrium, with accompanying tenderness. Later the pain became more diffuse and in a few weeks' time it spread to the interscapular region. Its character varied, sometimes being sharp and at other times of a boring character. It was constant but was much worse a few minutes after taking food. A few days after the pain commenced the patient began to vomit almost immediately after each meal. The vomit consisted of food almost unaltered and of several ounces of bright red blood on each occasion. The pain was entirely relieved after the act of vomiting. The patient was fed by the bowel for a week, but the pain, tenderness, and vomiting of food continued for some time longer. Strict dietetic treatment was enforced, a complete recovery from the symptoms was made, and the patient remained perfectly well until May, 1905, when a precisely similar attack returned and responded to treatment in six weeks. The patient remained free from stomach symptoms until three or four weeks before admission, when vomiting of food commenced, accompanied by epigastric pain and tenderness and hæmatemesis three days later. These symptoms continued until admission to hospital. Since the swallowing of the poison the menstrual periods have been irregular and the patient has occasionally suffered from metrorrhagia, dysmenorrhœa, and leucorrhœa.

On admission, the patient was found to be a well-nourished young woman and had a moderately good colour. There was a fair appetite, the teeth were in fairly good condition, and the tongue was slightly furred. She was at once put on to rectal feeding and the nausea and vomiting ceased, but about ten minutes after each injection there was a pain in the epigastrium, spreading to the back, which was much aggravated by movement. There was definite and

localised tenderness in the epigastrium. There was no evidence of dilatation of the stomach or of enlargement of the liver. Nothing abnormal was discovered on physical examination of the heart or of the lungs. The urine was acid, had a specific gravity of 1020, contained a deposit of urates, and was free from albumin. The usual treatment of gastric ulcer was continued and the patient left the hospital on Dec. 2nd free from pain and much improved in general health.

Remarks by Dr. PRICE.—It seems clear that this was a case of gastric ulcer which was caused by, and followed soon after, the ingestion of an irritant. I am much indebted to the kindness of Dr. Hebb for being allowed to publish this case.

GOVERNMENT CIVIL HOSPITAL, HONG-KONG.

UNUSUAL CASE OF LIVER ABSCESS; DEATH.

(Under the care of Mr. J. BELL.)

THE patient, a Chinese, aged 40 years, was admitted to hospital on August 26th, 1905. He looked very wasted and stated that he had been ill for over a month with fever but no very definite account of his illness was obtainable. All the internal organs seemed healthy, save that the liver dulness was slightly increased downwards The tongue was very dry and furred, the urine was normal, and the temperature was subnormal. There were a number of purpuric spots of various sizes all over the body. A blood count taken by Lieutenant R. M. Ranking, R.A.M.C., was normal. The patient continued in much the same condition for a few days, obviously getting weaker all the time, and on the fourth day his temperature from being subnormal suddenly rose to 104° F. in the evening. The purpuric spots increased in size and in number and slight diarrhœa supervened, the stools being acholic, but no amœbæ or tubercle bacilli were found microscopically. The tongue continued to get drier and more furred. On the sixth day he had a rigor with a rise of temperature to 104°. The liver was found to be increased downwards but was not tender. An ill-defined swelling extended on the right side from the middle line to the mid-axillary line. This swelling had a peculiar emphysematous feeling heard as loud friction sounds by the stethoscope. Aspiration over the dull and resonant areas gave exit to air and a little blood. The blood count gave 14,000 white cells per cubic millimetre. Jaundice now came on which rapidly increased to the time of death, which occurred on Sept. 5th, 11 days after admission. Aspiration of the area of liver dulness was negative as to pus. On the day following the rigor the temperature was subnormal all day; it rose on the next day to 102° and then continued subnormal till the end.

Necropsy.—At the post-mortem examination all organs were healthy save the liver, which was increased in size, extending two fingers' breadth below the costal margin. In the right lobe was a large well-defined mass of about the size of a large orange, extending to within half an inch of the surface, the mass being composed of thick cheesy material. Behind this and continuous with it was a small abscess cavity of about one-eighth of the size of the mass. The lining membrane of the abscess and the cut surface of the mass teemed with living amœbæ. The large intestine was quite normal and showed no signs of old or recent dysentery.

Remarks by Mr. BELL.—This was a most puzzling case. The absence of amœbæ in the stools or of any history of dysentery negatived liver abscess, more especially as the liver was not much increased and no pain or tenderness was at any time present. The advent of the ill-defined swelling in the abdomen with emphysema suggested the possibility of an abscess due to ruptured duodenal ulcer, the abscess being shut off by adhesions. Nothing was found post mortem to account for this peculiar crackling which none of us had heard of or met with before. The inspissation of such a large abscess is most unusual, if not the first of its kind, and would have made it impossible to treat the case if it had been diagnosed as the pus was quite solid. Was this an attempt on the part of nature to cure the case? Presumably the amœbæ reached the liver without first attacking the large gut—a most interesting fact.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Bacteriolytic and Agglutinative Properties of the Serum of Goats inoculated with Typhoid Cell-juice.—The Fatty Change in the Liver produced by Ligature of the Hepatic Artery.—Immunisation between Bacillus Pestis and Bacillus Pseudo-tuberculosis Rodentium.—Natural Occurrence of Weil's Disease in the Guinea-pig.—Sarcocystis Muris.

A LABORATORY meeting of this society was held on Feb. 6th at the Lister Institute, Dr. C. J. MARTIN being in the chair.

Dr. ALLAN MACFADYEN made a communication upon the Development of Agglutinins and Bacteriolysins in the blood of animals (goats) which had been treated with typhoid cell-juices. It was shown that the agglutinins did not stand in a quantitative relationship to the protective substances present in the blood. The agglutinins were not therefore a reliable index of the immunising value of an antityphoid serum.

Dr. F. A. BAINBRIDGE and Mr. J. B. LEATHES read a communication on the Effects of Obstructing the Blood-vessels supplying the Liver. They said that it was possible by the artificial injection of either the hepatic artery or the portal vein to inject the whole capillary network of the liver lobules. There was reason to believe, therefore, that the arterial blood supplied not only the connective-tissue elements but also the cellular elements of the liver. In cats, ligature of the hepatic artery and of all the visible arteries running to the liver in the gastro-hepatic omentum caused death within 24 hours. Ligature of the hepatic artery alone was not fatal. The ligature was followed by a great increase of fat in the lobules (as observed histologically). The fat was for the most part confined to the inner zone of the lobules and was most abundant in livers examined a day or two after the operation; it gradually decreased in amount and at the end of a month the liver again presented a normal appearance. Recovery was doubtless due to the opening up of anastomotic channels and to gradual restoration of the supply of arterial blood. Ligature of a branch of the portal vein supplying one lobe of the liver was followed by the destruction of many cells in the inner zone of the lobules and later by considerable atrophy of the lobules, associated with very definite fibrosis of the inter-lobular connective tissue. There was at first some increase in the amount of fat present (microscopically), but the change was very slight in comparison with that produced by arterial obstruction. Chemical analysis of a lobe of the liver removed at the time of the operation and of the rest of the liver some days after the operation showed that the actual amount of fat was not increased after tying the hepatic artery. The increase of fat observed microscopically did not indicate a real increase of the fat present in the liver. It was improbable, therefore, that either fatty infiltration of the liver from without or true fatty degeneration of proteid had taken place. They suggested that the apparent increase of fat was the result of the autolysis of very complex molecules made up of a fatty body normally bound up with proteid or other bodies. During health these combined fats could be detected microscopically, but when the nutrition of the cells was impaired by lessening their supply of oxygen these complex bodies broke down to such an extent that the fat was set free and became recognisable by ordinary histological methods. The fat appeared in the centre of the lobule which received the smallest supply of oxygen. The fatty change in the liver in anæmia and other conditions of malnutrition might possibly be accounted for in the same way. That the oxygen supply was the essential factor was indicated by the absence of fatty change after ligature of a branch of the portal vein.

Dr. ALFRED T. MACCONKEY made a communication to the effect that by inoculating guinea-pigs with repeated and increasing doses of the bacillus pseudo-tuberculosis rodentium (Pfeiffer) it was possible to protect them against a subsequent inoculation of virulent bacillus pestis. Of 17 guinea-pigs immunised with bacillus pseudo tuberculosis rodentium (Pfeiffer) not one succumbed to an inoculation with virulent plague bacilli, while of 1 controls eight died from plague.

Dr. J. E. LEDINGHAM recorded a case of Acute Infective Jaundice in the Guinea-pig. The pathological changes in the organs were similar to those described in fatal cases of acute infective jaundice (Weil's disease) in man and birds. From the liver a bacillus was isolated having the morphological, cultural, and pathogenic properties of organisms of the proteus group which were first isolated by Jaeger in cases of Weil's disease.

Mr. L. NOON showed specimens of Sarcocystis Muris, a sporozoan parasite described first by Miescher in 1843 and now classified with the sarcosporidia. Theobald Smith was the first to succeed in transmitting it experimentally from mouse to mouse by feeding with infected muscular tissue. Others had failed to infect man or carnivora with the allied parasites of sheep and swine. Smith had also followed its development within the striped muscle fibre, up to the mature stage when the Miescher's tube was found to contain crescentic sporozoites. The sporozoites corresponding to the gymnospores of other sarcoporidia showed in films stained with Giemsa's stain a nucleus with red chromatin network, and the protoplasm blue with many round dull red granules at one pole. No forms were found which resembled the chlamydospores of other sarcosporidia in having a cuticle and striated polar body. A second life-cycle was unknown. Laveran had obtained a toxic extract from the sarcocystis of sheep which killed rabbits in eight hours with symptoms of cholera. The attempt to repeat this with sarcocystis muris had failed so far. The investigation was being continued.

OPHTHALMOLOGICAL SOCIETY.

The Treatment of Detachment of the Retina.—Acute Œdema of the Eyelids.—Septic Thrombosis of the Cavernous Sinus.—Bitemporal Hemianopsia.—Exhibition of Cases.

A MEETING of this society was held on Jan. 25th, Mr. PRIESTLEY SMITH, the President, being in the chair.

Dr. A. M. RAMSAY read a paper on the Treatment of Detachment of the Retina. The paper was based on a record of 50 consecutive cases of detachment of the retina treated in the Glasgow Ophthalmic Institution during the four years ending Oct. 31st, 1905. The active treatment consisted in subconjunctival injections of from five to 20 minims of 1 in 2000 bicyanide of mercury with 8 per cent. chloride of sodium solution, the severe pain that always followed being mitigated by the addition of a few drops of 1 per cent. acoine solution. The injection was repeated as often as might be necessary, at intervals of from four to six days, and if no decided improvement showed itself within a fortnight free diaphoresis was induced by the subcutaneous injection of from one-eighth to one-quarter of a grain of pilocarpine, this alternating with the subconjunctival injections. If the site and character of the detachment were deemed favourable the subretinal fluid was always evacuated by scleral puncture. The patient was kept prone in bed with his eyes bandaged and every effort was made to improve his general well-being by careful attention to diet and to the action of the bowels, kidneys, and skin. Marked chemosis of the conjunctiva was essential and when the reaction to the subconjunctival injections was absent or ill-marked from 1 to 2 per cent. of dionine was added to the bicyanide and chloride of sodium solution. Of the 50 cases treated ten showed a decided improvement and 13 a moderate improvement, though of the former group five, and of the latter group two, relapsed at intervals, varying from two weeks to four years. The more recent the detachment the more favourable the prognosis but the pathological antecedents of the affected eye were more important than the duration of the condition. Failure was the rule in all cases marked by a seriously degenerated choroid, a pupil sluggish to mydriatics, a much diminished tension, and a red-coloured separation. The method of treatment outlined was simple, applicable to all cases, and, so far as Dr. Ramsay's experience went, never did any harm.—Mr. H. E. JULER referred to some cases of Galizowski in which posterior sclerotomy produced striking results though he had not seen them repeated and quoted a case which emphasised the importance of determining between simple detachment and that accompanying a new growth.—Sir A. CRITCHETT welcomed such a candid and truthful exposition of the subject and in spite of conflicting results he was strongly disposed to attempt the treatment recommended by Dr. Ramsay.—Mr. SIMEON SNELL referred to cases submitted to various methods of treatment, the best of which recovered after tapping, though the results generally were unfavourable.—Mr. H. SECKER WALKER found greater benefit from subconjunctival injections of cyanide of mercury than from any other mode of treatment.—The PRESIDENT said that in cases of old standing, associated with myopia, there was nothing to do. He recommended the recumbent position and pressure with puncture and the subconjunctival injections, but results varied. New growth might be diagnosed by enlarged vessels in the neighbourhood of the detachment and by means of transillumination.

Mr. SNELL related a case of Acute Œdema of the Eyelids on both sides in a pork butcher, aged 48 years. The day before he had been dressing a pig and the gut, at a part which contained a lot of worms, burst over his face. Immediately irritation was felt and the lids commenced to swell. He was seen three hours later by his medical man when the condition was the same as it was 22 hours later. The eyelids on both sides were intensely œdematous, projecting as a large semi-translucent swelling, leaving only a chink between them. There was considerable chemosis of the conjunctiva. The next day it was learnt that the swelling had greatly subsided and 24 hours later had disappeared, only some redness of the conjunctiva remaining. Experiments with the worms subsequently caused no irritation in guinea-pigs.

Mr. SNELL also described a case of Septic Thrombosis of the Cavernous Sinus. On May 1st, 1895, a young medical practitioner pricked a small vesicle on the left side of the upper lip with a gold scarfpin which had been used previously to open an abscess and which was thought to be clean. On the next day there were redness and swelling and towards the evening the patient had to give up work and retire to bed. The following day the condition of the upper lip was worse and further progress was noted on the fourth day. On the fifth day the blush extended over the left cheek towards the orbit. On this side proptosis occurred with swelling of the conjunctiva and œdema of the eyelids. Later, the right eye followed precisely the same course, the protrusion being even more marked. Interference with the movements of the eye was complete, only becoming so on the left side two days before death. There were also palsy of the right facial nerve and deafness on the right side. Another symptom was dulness with evidence of effusion on the right side of the chest. The patient died 14 days after the commencement of the attack, his mind having been unaffected throughout. Mr. Snell remarked that the initial lesion was clearly the condition of the lip which the medical attendants had considered to be a malignant facial carbuncle. No post-mortem examination was allowed.—Dr. D. J. WOOD cited three cases of a similar nature. Antitoxic serum appeared to be the best remedy.—Mr. J. H. FISHER stated that the great bulk of cases resulted from infection of the lateral sinus from otitis media, though occasionally this originated in the face. Treatment was very unsatisfactory as compared with jugular vein infection.

Dr. WOOD related a case of Bitemporal Hemianopsia. The patient, a man, aged 33 years, had suffered for more than a year with frontal headache, failing vision, and loss of memory. His better eye, the right, had become the worse, V = $\frac{1}{5}$ (− 4 D.), the left V = $\frac{1}{15}$ (− 15 D.), and he had bitemporal hemianopsia with contraction of field and loss of fixation point in the right. Mentally he was dull, repeated himself, forgot what he was going to say and became annoyed, and there was marked delay in answering questions. The pupils were sluggish and patellar reflex was nearly absent. During 52 days' observation in hospital he steadily grew worse mentally so that it became impossible to keep him there on account of his foul language at night and filthy habits. His friends refused to let him go to an asylum, and, though he had ceased to recognise them or to talk rationally, took him home. After another 62 days, during which there was little change except that he contracted "influenza" and developed a bad cough, he suddenly sat up in bed and began to ask sensible questions—became, in fact, suddenly sane. He rapidly improved and when seen some months later was entirely recovered mentally. His right eye was divergent, quite blind, and exhibited optic atrophy. The left eye had improved (V = $\frac{1}{6}$) and his field was slightly larger. The left pupil was active, patellar reflexes were normal, and his memory since his sudden recovery was good, but he had no recollection of anything during the previous three and a half months. The case was thought to be one of cyst of the pituitary body.

which during a fit of coughing had ruptured through the attenuated bone into the pharynx or nasal cavities, though nothing of this sort was noticed by the friends and the patient himself was unconscious till the actual relief of pressure had occurred.

The following cases were shown:—

Mr. A. S. MORTON and Mr. G. COATS: A case of Subconjunctival Cysticercus.

Dr. R. E. BICKERTON: (1) Supposed Growth of Choroid; and (2) Anopthalmos.

Mr. L. V. CARGILL: Orbital Tumour.

LIVERPOOL MEDICAL INSTITUTION.

A Case of Hæmorrhagic Pancreatitis.—Posterior Vertebral Tuberculosis.—Caries of the Atlas and Axis.—Cardiac Hypertrophy in Graves's Disease.—The X Ray Diagnosis of Renal and Ureteral Calculus.

A MEETING of this society was held on Feb. 1st, Mr FRANK T. PAUL, the President, being in the chair.

Dr. F. W. BAKER YOUNG reported a case of Acute Hæmorrhagic Pancreatitis. The patient was a man, aged 30 years, who was addicted to alcohol. He was taken ill while at work, walked home, a distance of 50 yards, and died within 45 minutes of the onset of symptoms. At the necropsy the body and tail of the pancreas were found to be enlarged and infiltrated with fluid blood; the head of the organ was also involved but not to the same extent. There were blood-stained fluid in the lesser sac of the peritoneum and an ecchymosis on the left kidney over the site of its relation with the body of the pancreas. No other lesion was found that could account for death. The following points were of special interest: (1) the rapid onset and rapid termination; (2) the patient's age; (3) absence of vomiting; (4) absence of pain; (5) the fluid state of the blood, no clots having been found even 48 hours after death; (6) the engorgement of the abdominal veins with fluid blood; and finally, the medico-legal aspect of the case—had the pancreas not been examined the cause of death could not have been stated.—Dr. WILLIAM CARTER drew attention to the similarity of the symptoms in death from irritant poisoning and from hæmorrhagic pancreatitis respectively, quoting the following from Dr. A. J. Chalmers's monograph on "Pancreatitis in Ceylon": "Especially I desire to draw attention to the legal post-mortem form where no mention of the pancreas is to be found. I think that this should be rectified and that in all legal post-mortems careful note should be made of the condition of the pancreas."

Mr. K. W. MONSARRAT read a short paper on Posterior Vertebral Tuberculosis. After mentioning the primary seats of the disease as it has been found in the vertebral arches he related two cases. In the one the disease involved the transverse process, pedicle, and lamina in the dorsal region; in the other it was confined to the lamina of the fourth cervical vertebra on the left side. Both cases were complicated by abscess and the cervical case also exhibited paralytic phenomena beginning on the left side and subsequently extending to the right and involving the bladder function. The paralysis in the second case rapidly disappeared after laminectomy and the clearing out of a mass of granulation tissue from the spinal canal.

Dr. T. R. GLYNN related a case of Caries of the Atlas and Axis with displacement of the atlas backwards in which recovery took place, the patient ultimately dying from internal hydrocephalus. The caries was associated with post-pharyngeal abscess and the condition being recognised, the patient, a girl, was placed on a bed raised at its upper end, her head being fixed by a bandage to a rail, and the body extended by a weight attached to the feet. All her limbs and the bladder became paralysed and respiration embarrassed. Atropine proved valuable in relieving respiratory trouble. After many weeks she recovered, the last symptoms, those pointing to descending lateral sclerosis, nearly passing away. She enterered service and remained well for several weeks but was readmitted comatose. After death great distension of the lateral ventricles was found. The odontoid process had slipped backwards and upwards; the cord was compressed to the size of a goose quill; and the axis and atlas were partly destroyed and ankylosed together. The hydrocephalus was probably caused by the displaced odontoid process thrusting the medulla upwards against the cerebellum and closing Magendie's foramen.

Dr. T. R. BRADSHAW showed a case of Cardiac Hypertrophy in Graves's Disease. The patient was a girl, aged 16 years, with Graves's disease incompletely developed. There had been palpitation and suffocative sensations for a year. The most prominent sign was hypertrophy of the right ventricle, for which none of the common causes were present. Latterly, slight enlargement of the thyroid had become apparent. Dr. Bradshaw commented on the rarity of demonstrable cardiac hypertrophy in Graves's disease, a fact pointed out long ago by Trousseau.

Mr. C. THURSTAN HOLLAND read a paper on the X Ray Diagnosis of Renal and Ureteral Calculus. The paper was divided into three portions: the positive, doubtful, and negative evidence of calculi. Illustrative cases were cited and lantern slides were shown to prove the value of the positive and the difficulties of the doubtful diagnosis. The paper was based on a series of 76 cases, in 22 of which calculi were shown by the x rays. The value of the negative evidence was discussed and it was pointed out that too frequently reliance was placed on plates which were not good enough to warrant a negative opinion. If plates of the proper quality were obtained, then, and then only, was negative evidence to be relied on. The value of a pressure-tube apparatus in taking these radiographs was also dwelt upon.—The PRESIDENT referred to the valuable aid in diagnosing lesions of the kidney afforded by the urine separator and radiography. Liverpool was fortunate in possessing an exceptionally skilled specialist in each department as he had had many opportunities of testing, and though at first he had not been prepared to give an unqualified acceptance to the results obtained by these methods experience had assured him that in proper hands they were thoroughly trustworthy and of the utmost assistance.—Dr. J. HILL ABRAM said that one of Mr. Holland's cases was a man, aged 43 years, who had been sent to him for pain in the right hypochondrium and loin. There had never been any renal colic or hæmaturia and nothing could be detected by physical examination. On one occasion Dr. Abram had found a few pus cells in the urine. Mr. Holland's report was decisive and Mr. Rushton Parker successfully removed two stones from the kidney. It was an enormous gain to have had an advance in their methods which would enable physicians to recommend surgical interference with much lighter hearts than in the past.—Mr. W. THELWALL THOMAS alluded to the great service which the x rays in Mr. Holland's hands had been to him in many cases of stone of the kidney—even in a case of a large kidney filled with pus and in a very stout patient—in confirming the diagnosis. He would in every case of suspected calculus call in an expert radiographer for confirmation.—The following gentlemen also took part in the discussion of the paper: Mr. RUSHTON PARKER, Dr. NATHAN RAW, Sir JAMES BARR, and Dr. T. WALBY.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 26th, Dr J. Lindsay Steven, the President, being in the chair.—Professor Samson Gemmell showed a case of Pseudo-hypertrophic Paralysis in an adult. Weakness in the legs with dull pain in the calves and lumbar region began four years ago when the patient was 19 years of age. In nine months he was forced to give up work and under the orders of his medical adviser remained in bed for six months. He was then admitted to the Edinburgh Infirmary where he was treated by massage, electricity, and Turkish baths for 16 weeks. On dismissal he was sufficiently well to resume work for 15 months but the symptoms returned and by Oct. 21st, 1905, when he was admitted to the Glasgow Western Infirmary, a walk of 200 yards exhausted him. There was no trace of any similar disease in his family. His condition on admission was as follows: The deltoid, biceps, and triceps were prominent. The forearms were large. The scapulæ projected. The infraspinati were distinctly enlarged. Below there was distinct atrophy of the erectores spinæ. The gluteal muscles were small and flabby. The thighs were straight and atrophic. The calves were large and firm and measured 15 inches. Tested individually the muscles of the body were greatly weakened. They all reacted to the faradic and galvanic currents but required a current rather stronger than normal. The knee-jerks were obtained with difficulty. Sensation and heat sense were unimpaired. The gait was of the waddling type and the head was ducked forwards and downwards with each step. When

rising he turned over on to his left side, raised himself on his knees, then on his toes and hands, and gained the erect position by climbing up his thighs. He had been treated with massage, exercise, and the high frequency current with great benefit.—Professor Gemmell also showed a case of Friedreich's Ataxy in a boy, aged 16 years. There was a history of injury to the head six years ago. After this his power of writing became defective and was now very unsteady. Walking had been unsteady for six months and now his hands were unsteady. His habitual posture was one of kyphosis. His gait was very unsteady. He reeled and elevated his feet too high and stamped them down heel first. He could not walk along a plank or stand with feet together and eyes shut. The tongue was tremulous. His speech was slurring but had no staccato element.—Professor R. Muir demonstrated four cases of Cirrhosis of the Liver with Primary Cancer. He said that the association was not casual but etiological. In cirrhosis there were a degeneration of liver cells from pressure and, as a reparative process, a hyperplasia of other liver cells. This hypertrophy appeared sometimes to precede the beginning of cancer and the cancer arose from liver cells, often at multiple foci, as if the compensatory proliferation had passed its usual bounds and developed into a cancerous growth. Clinically such cases sometimes were associated with a rapid and an extensive ascites from a growth of cancer cells obstructing the portal vein.—Dr. Renton showed: 1. A case of Coxa Vara after operation. He had removed a wedge of bone from the femur below the trochanter on each side. The bone was then fractured outwards and the legs were put up in a double long splint. After union there was a gain of two inches in length and the patient could sit down without crossing his legs. He could now draw up his legs freely. 2. A boy, aged ten years, who had Gastro-enterostomy performed for Stricture of the Pylorus. The stricture had resulted from an ulcer of the stomach after enteric fever. The ulcer had caused hæmorrhage and great dilatation of the stomach and had led to emaciation. His weight on admission was 2 stones 13 pounds and was now 4 stones. 3. A case of Cholecystcolostomy where a large stone had been impacted in the common duct, causing contraction and fistula. He had joined the gall-bladder to the colon with a Murphy's button which was passed on the eighteenth day.—Dr. Beatson showed: 1. A patient with Bilateral Ankylosis of the Hip and Spastic Condition of the Muscles. The gait in this case had suggested coxa vara but this condition and congenital dislocation had been eliminated by skiagram. Under an anæsthetic it was found that the ankylosis was complete; abduction and all movement in an extended position were entirely absent. The muscles of the thigh were hypertrophied and spastic. There was a history of injury 11 years ago. One brother had tuberculous disease of the hip and a sister had never been able to walk. Dr. Beatson regarded the condition as a rheumatic affection. 2. A case of Cicatricial Keloid; one of the size of a walnut in the shoulder which arose from an abrasion caused by friction of the patient's braces, another behind the ear following a burn, and a third in the lumbar region from an acne pustule. X ray treatment had not been successful.

ROYAL ACADEMY OF MEDICINE IN IRELAND: SECTION OF MEDICINE.—A meeting of this section was held on Jan. 19th, Sir William J. Smyly, the President, being in the chair.—Dr. W. G. Smith opened a discussion on Empyema with especial reference to its Etiology and Diagnosis. He said that as to the nature of the effused fluids, it was sufficient to group them into (*a*) sero-fibrinous and (*b*) purulent. Most pleurisies were caused by infective agencies. Three points might be noted—namely (1) the serious significance of the tubercle bacillus; (2) the comparatively favourable outlook of even purulent effusions when due to the pneumococcus; and (3) the serious and frequently fatal character of cases due to acute streptococcal invasion. In regard to physical diagnosis, half a pint of fluid was about the smallest quantity that could be recognised. Percussion was more valuable, diagnostically, than auscultation. Bronchophony might be heard through a considerable mass of pleural fluid. Vocal fremitus might be normal, or even weakened, in acute pneumonia, and was often increased just above the upper limit of an effusion. Exploratory puncture was the most valuable and certain mode of detecting fluid.—Sir Thornley Stoker introduced the discussion on the Surgical Treatment of Empyema and gave the results of his own experience as to various methods. He laid great stress on the early drainage of the pleural sac and set aside as quite out of date the use of aspiration. He strongly advocated that when thoracotomy was called for it should not be practised by intercostal incision but by removal of a portion of a rib. He claimed that this should be the routine method, as it gave room for digital exploration, avoided the pinching of drainage-tubes between the ribs, was free from risk of bleeding, permitted the discharge of the large masses of lymph usually found, and could be practised with great rapidity. He advocated the performance of thoracoplasty at a period anterior to that at which it was often resorted to, and claimed that when done in time without delaying to the last moment, and when performed in a certain way, it was not a very serious proceeding and was usually a very successful one. The U-shaped flap should be avoided and the portions of ribs operated on should be removed through straight incisions parallel to their axes. One incision sufficed for the resection of portions of as many as three ribs. In his practice he had not found removal of the periosteum necessary: it increased the length and danger of the operation and the membrane caused no ill effects if left behind. Irrigation of the pleural sac was to be avoided in most cases and only resorted to if fœtor was present or the discharge was unduly persistent. It was often dangerous to life by causing collapse or convulsions.—Dr. Henry C. Earl read a short paper on the Bacteriology of Empyema. He pointed out the importance for prognosis that bacteriological examinations have, particularly in cases of pneumococcal and streptococcal origin. He also discussed the difficulty of diagnosis of the nature of tuberculous cases and the value to be attached to the sterility of an effusion.—Sir John W. Moore read notes of two cases illustrative of the difficulties which attended the differential diagnosis of empyema or pyothorax and hypophrenic abscess. The first patient was a woman, aged 30 years, in whom the physical signs led to a diagnosis of right empyema. Paracentesis was performed and 170 ounces of most offensive pus were drawn off. The patient sank, and at the necropsy the seat of suppuration proved to be altogether below the diaphragm, constituting a hypophrenic abscess and involving the liver also. The starting point of all the mischief was probably a perforating gastric ulcer, in connexion with which adhesive inflammation had occurred. The second patient, who was a man 52 years of age, suffered from cancer of the œsophagus. He complained of difficulty of swallowing, sharp pain in his chest, and spasmodic cough. Exploration of the right pleura showed a serous effusion. He subsequently grew worse and a syringeful of stinking pus was drawn off from the right side in the seventh intercostal space. Mr. Taylor afterwards excised a portion of the right tenth rib, in a line with the inferior angle of the scapula, and evacuated an enormous collection of very foul-smelling pus. The man died three days later, and the necropsy showed that a perforating cancer of the œsophagus had opened into the posterior mediastinum, thence reaching the right pleura and setting up a septic empyema. The examination of the abdomen revealed nothing abnormal.—Sir Arthur Chance, Dr. A. C. O'Sullivan, Dr. R. A. Hayes, and Dr. N. McIntire Falkiner also took part in the discussion.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at Birmingham on Jan. 31st, the chair being taken by Mr. J. Quirke, the President.—Dr. O. J. Kauffmann showed a case of Myopathic Atrophy.—Mr. F. Victor Milward showed a girl, aged 21 years, on whom he had operated for Colitis associated with much Interstitial Infiltration. Six months previously she was taken to the General Hospital, having suffered for five days with abdominal pain and tenderness. A diagnosis of appendicitis was made, the symptoms exactly representing that disease. The abdomen was opened and the cæcum, appendix, and colon, as far as could be reached, were found to be in an acutely inflammatory state. The muscular and subserous coats were very greatly thickened by serous exudation and recent patches of lymph were present on the peritoneum. No pus, necrotic area, or ulceration was seen. No symptoms of enteritis were at any time present. Drainage was employed and the girl recovered in about a month and had since been well. The peculiarities of the case were the localisation of the condition to the large intestine, the absence of any breach of surface, and the uneventful recovery which followed drainage.—Dr. J. Douglas Stanley showed a case for diagnosis.—Mr. George Heaton showed: (1) a Kidney removed for Ruptured Ureter; and (2) a patient from whom a Ureteral Calculus had been removed.—Dr. J. E. H. Sawyer showed a specimen of Diffuse Angeiomatous Condition of the Liver.—Mr.

C. A. Leedham-Green showed a boy on whom he had operated some two years before for the relief of Severe Cicatricial Contraction of the Hand. As the result of a bad burn of the palmar surface of the right hand all the four fingers were strongly flexed so that it could not be opened and only the thumb was capable of movement. The operation consisted in the making of a deep transverse incision across the centre of each finger through the contracted skin and tissues until complete extension could be effected. In each case it was necessary to open the flexor tendon sheath, and in that of the two inner fingers the tendon itself had partially to be divided ere they could be completely extended. This forcible straightening converted the simple transverse incision into a large lozenge-shaped wound. To cover in this defect a large graft of the whole thickness of the skin was excised from the tegument over the biceps muscle and applied to the wound on each finger, the grafts being maintained in position by firm bandaging and splints. In each case the transplanted skin lived and healed without drawback. The hand was then persistently massaged for some months and the boy had now a perfectly restored hand with fingers capable of the freest movement and showing no trace of the deformity and no tendency to contraction.—Dr. J. G. Emanuel showed a girl, aged 18 years, suffering from Cerebro-spinal Syphilis, the symptoms of which had been noticed about eight months. She was taken for treatment on account of an unsteadiness in gait amounting to an actual reeling; in fact the neighbours were taunting her with being drunk. The onset of this ataxia in point of time coincided with the appearance of periosteal nodes on both tibiæ and of synovitis with effusion of both knee-joints. In addition there were typical syphilitic teeth, deafness in both ears, and kerato-iritis in each eye. To the ataxia were added signs of degeneration of the pyramidal tracts—viz., recently developed pes cavus, increased tendon reflexes in the arms and legs, a tendency to ankle clonus, and the Babinski reflex was obtained once on the right side. There were no muscular weakness, no sensory disturbance, no bladder or rectal trouble, no optic atrophy, no nystagmus, no speech defect, and no mental deterioration. A point of special interest in the case lay in the fact that the patient had a brother, aged 35 years, presenting a very similar condition of ataxia combined with undoubted congenital syphilis.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Feb. 2nd, Mr. W. Campbell McDonnell, the President, being in the chair.—Dr. J. S. Risien Russell read a paper on Erroneous Signs in Cerebral Localisation. He said that there were two main considerations. 1. Where there were signs of the brain being affected but the disease was in another part of the body. Occasionally in cases of pneumonia they found a cerebral type. At first there were no signs in the chest and the cerebral symptoms were thought to be due to meningitis. A man sent into hospital for sunstroke was unconscious, had convulsions, rigidity, some head retraction, occasional squinting, but no optic neuritis or paralysis. Meningitis was diagnosed but he began to spit up some rusty expectoration and then developed physical signs in the left upper chest which extended. He died and post mortem there was lobar pneumonia but no meningitis. A child suffered from cerebral symptoms with complete coma, absent knee-jerks, squinting, some rigidity, and Cheyne Stokes breathing, but had no paralysis or chest symptoms. Signs of pneumonia did not appear for a week. In "meningism" there might be squinting, rigidity, convulsions, and absent knee-jerks. Positive signs of meningitis were paralysis of cranial nerves and optic neuritis. Kernig's sign occasionally failed and had been present in cases other than meningitis. Babinski's sign had not failed so far. 2. Conditions in which there were signs of a lesion in the brain but the lesion was in another locality. A woman had left hemiplegia which was considered functional, but she had definite ankle clonus and extensor plantar reflex, also partial ptosis and paralysis of accommodation and of convergence on the right side, hence her disease was organic and was considered to be due to a tumour of the right crus. Suddenly one morning she vomited and became unconscious and comatose, but there was no evident increase of paralysis of the right third nerve and of the left limbs. The urgent symptoms being considered due to a rapid increase of fluid in the ventricles and œdema of the brain from blocking of the aqueduct, lumbar puncture was performed but without relief. To relieve intracranial pressure she was trephined but again without relief, and she died. Post mortem the localisation was found to be wrong, for the crus was absolutely free from disease but there was a large tumour of the meninges compressing the cortex and destroying the Rolandic region of the right cerebral hemisphere. This case was remarkable as there were no convulsions, which are the rule in cortical tumours. Hence cortical tumours need not necessarily cause convulsions; likewise tumours not cortical could cause convulsions. As a rule paralysis of the third nerve could be relied on for localisation; not so the sixth nerve. A nerve might be involved without being compressed by a tumour and the theory advanced was that the involvement was due not so much to increased intracranial pressure as to some form of neuritis set up by toxic influence. In diagnosing organic from functional disease the occurrence of ankle clonus and extensor plantar reflex was emphasised. The misleading signs referred to showed how rarely they could be absolutely certain as to cerebral localisation.—Dr. L. Durno showed a specimen of an Appendix half an inch in length.—Dr. D. Ross showed a child aged 15 months suffering from Congenital Cerebral Deficiency. There were nystagmus, blindness probably due to optic atrophy, and almost constant protrusion of the tongue due to some spasm.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on Feb. 2nd, when Professor F. J. Keeble read a paper on the Action of Anæsthetics on Lower Forms of Life. After referring to Claude Bernard's classical experiment to illustrate the action of chloroform on a pigeon, a frog, and a sensitive plant, the lecturer passed on to discuss various reflexes whereby plant sensitiveness could be demonstrated. Chloroform in suitable strength could prevent a plant perceiving such a stimulus as the influence of gravity. When exposed to anæsthetic vapours plants lost their reflexes in an exactly similar manner to animals. Both ether and chloroform inevitably produced effects on lower plants, more especially on the streaming movements, the movements of cilia, and the throwing out of pseudopodia. A properly adjusted dose produced at first an extremely temporary acceleration of movement and growth, immediately followed by a retardation, and finally complete rest. The rest produced by ether was less permanent and less likely to be lethal than ensued in the case where chloroform was the anæsthetic vapour used. Bacteria, except in spore condition, could be killed by exposure to anæsthetic vapours and chemiotaxis was profoundly altered. The rate of respiration was then referred to and the lecturer quoted the tubers of gladioli. After exposure to the vapour of ether for 24 hours the carbon dioxide produced by these tubers rose from 12·2 milligrammes to 57 milligrammes for the first day, only dropping to 40 for the third day. Cells in process of dividing when exposed to anæsthetic vapours had that process arrested as regards the protoplasm of the cell itself. The cell nucleus, however, remained unaffected by the doses employed. The lecturer then referred to the commercial employment of anæsthetics to force plants to bloom earlier and more profusely. Chloroform would do, but ether was better. Horse-chestnut buds could now be gathered off the trees, exposed to the vapour of ether (10 cubic centimetres of ether per litre of air at 17° to 19° C.) for 48 hours, and then kept in a room at the ordinary temperature. The result would be a generous production of flowers quite out of season. Discussing how the anæsthetic acted the lecturer said that it had been suggested that this was due to its action on the anti-growth enzyme whereby the growth enzyme freed from its antagonist had it all its own way. Finally, the lecturer referred to the toxicity of a poison depending on its solubility in lecithin.—In the subsequent discussion Dr. Edgar Willett, Dr. Dudley W. Buxton, and Dr. J. Blumfeld took part. The meeting concluded with a hearty vote of thanks to the lecturer.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A pathological meeting (the first meeting of this kind in the history of this society) was held on Feb. 2nd, Mr. L. A. Bidwell, the President, being in the chair.—Mr. Bidwell presented to the society a very tasteful badge to be worn by future presidents at the meetings of the society. The badge was accepted by Mr. F. Lawrance in the name of the society in suitable terms. Mr. Lawrance then invested Mr. Bidwell with the new badge of office.—The following members showed specimens, &c.—The President: A Stone formed round a Clinical Thermometer removed from the Bladder of a woman by Suprapubic Lithotomy; and sections of an unusual Tumour of the Omentum removed by operation.—Dr. J. A. Coutts:

Two Stomachs of Children showing Pyloric and Duodenal Obstruction.—Mr. George Pernet: Microscopic sections of various forms of unusual Skin Disease.—Mr. J. R. Lunn: Drawings and Paintings of various Morbid Conditions and also specimens of Adventitious Stones introduced into the bladder by a hysterical female patient and microscopic sections.—Dr. W. L. Harnett: An instructive series of Specimens of Morbid Anatomy, including a large cyst of the spleen and microscopic sections.—Dr. Hamilton Wright: A Collection of Microscopic Sections and Specimens of Morbid Anatomy.—Mr. W. McAdam Eccles: A Stomach removed by Operation for Colloid Carcinoma with recovery of the patient.—Dr. J. A. Mansell Moullin: A Large Uterine Fibroid and other specimens removed by operation.—Mr. Richard Lake: A most instructive collection of Specimens, Models, and Paintings illustrating various forms of Ear Disease.—Dr. Leonard P. Mark: The Broken Umbrella and Seared Clothes of a woman who was struck by lightning in Hyde Park but who ultimately recovered.—Dr. A. E. Russell: A Series of Kidneys showing the various forms of common pathological change.—Dr. Otto F. F. Grünbaum: A Heart with a Gumma of the Inter-ventricular Septum in which the band of His was involved. The patient during life showed symptoms of Stokes-Adams' disease.—Mr. J. G. Pardoe: A series of Prostates removed by Suprapubic Prostatectomy.—Mr. A. P. Woodforde: Microscopic specimens of the various forms of Spirochæta, including the Spirochæta Pallida.—Lantern slides of great interest were exhibited by Mr. C. R. B. Keetley of various forms of Deformity of the Hip, by Dr. A. Morison of Changes in the Coronary Arteries in a case of Angina Pectoris which had apparently affected the ganglion cells, and by Mr. Chisholm Williams showing the Effects of X Ray Treatment on certain cases of Malignant Disease.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 20th, 1905, Dr. J. K. Kelly, the President, being in the chair.—The following specimens were shown:—Dr. G. Balfour Marshall: Twins with one Placenta, two Cords with Velamentous Insertion of Both.—Dr. S. J. Cameron: Stereoscopic Photograph of Double Twin Pregnancy in one Tube.—The President: (1) Pyosalpinx; and (2) Tubo-Ovarian Cyst.—Dr. G. Scott MacGregor read a paper on Double Uteri—a Clinical Study. This condition being much more common than was generally supposed it was of great importance as bearing on the question of superfœtation. Having briefly given the history of recorded cases Dr. MacGregor divided the condition into three classes: 1. Uterus didelphys, the two halves of the uterus remaining externally distinct, the vaginæ separated, each uterus having its own ovary and Fallopian tube. As a rule, one uterus was larger than the other; one half might be shut off externally by the vagina ending blindly. 2 Uterus bicornis unicollis. The lower part of the uterus appeared to be normal but there was a depression at the fundus. 3. A septum in the interior forming two cavities; two vaginæ might be present; this form was called "uterus subseptus." Dr. MacGregor mentioned several cases which had come under his care: 1. A case of pregnancy in a double uterus with hæmorrhage from the other half of the uterus. 2. Primary amenorrhœa in a girl, aged 17 years, who had a large sausage-shaped swelling in the abdomen on one side with a smaller tumour connected with it. On incision of the hymen the condition was found to be retained menstrual fluid filling a double uterus. 3. A case where the vagina was divided into two by a septum; at the roof of each a small cervix was felt and two horns of the uterus were felt.—The President, Dr. Stark, Dr. B. Marshall, Dr. S. J. Cameron, and Dr. A. N. McLellen discussed the paper.—Dr. MacGregor replied.—The President gave a lantern demonstration on the Various Pathological Conditions of the Tubes and Ovaries. Photographs of hydrosalpinx, salpingitis, and pyosalpinx were shown in contrast with those of tubo-ovarian cysts, tubo-ovarian abscess, &c.

THERAPEUTICAL SOCIETY.—A meeting of this society was held on Jan. 23rd.—Dr. G. Newton Pitt read a paper on the Treatment of Exophthalmic Goitre by Antithyroid Serum, showing that this disease required prolonged treatment, and, though many remedies such as digitalis, belladonna, iodide of potassium, and arsenic often afforded relief, yet none acted as a panacea, and often, especially in poor patients, an operation was necessary; but in 1899 the use of serum obtained from the blood of dogs from which the thyroid gland had been removed was introduced and was found to be beneficial in many cases. Others had used the dried blood or the milk from goats without thyroids with success, but the flesh of goats appeared to be useless. At first the antithyroid serum was injected subcutaneously, but it was proved to be equally useful when given by the mouth; as, however, each dose cost 2*s.*, and often more than 100 doses were required, the treatment was expensive. Five cubic centimetres of the serum are given every other day and rest in the open air is advisable. Under this treatment the thyroid gland and exophthalmos lessened, the pulse became slower, the tremors and nervous symptoms abated, and the general health and weight improved until the patient was apparently well, but a relapse might occur, requiring renewal of the treatment. No ill-results had occurred, excepting in one case in which the patient took 240 doses of the serum without again consulting a medical man and symptoms of myxœdema were produced but were relieved by stopping the remedy. Dr. Newton Pitt treated six cases of Graves's disease with antithyroid serum, and in every case great benefit resulted; the tremors and insomnia were stopped, the pulse fell from 160 to 100, and the thyroid, which in one case caused dysphagia, was generally diminished. The general health was so improved that one patient was able to walk four miles and the weight increased in one case by two stones.

BRITISH ELECTRO-THERAPEUTIC SOCIETY.—The fourth annual meeting of this society was held at 11, Chandos-street, London, W., on Jan. 26th, when the following were elected as officers for the current year. President: Mr. J. Hall-Edwards. Treasurer: Dr. Donald Baynes. Honorary secretaries: Dr. E. R. Morton and Dr. W. Kenneth Wills.—The Annual Conversazione and Exhibition of new or improved apparatus used in physical therapeutics was held at the same time and place. The exhibition was the most successful since the inception of the society, no less than 16 firms being represented. Among the noteworthy exhibits a great improvement was seen in the output of induction coils for x ray and high frequency work, those shown by Mr. K. Schall and Messrs. Watson and Sons being specially noticeable. Messrs. Newton and Co. showed a New Instrument for Measuring the Energy of the Radiations Given Off by an X Ray Tube which seemed to come nearer to what was really required than any means yet devised.—Mr. A. E. Dean showed his Apparatus for Securing Accurate Dosage of X Rays for Therapeutic Purposes, such as was in use at the London Hospital and elsewhere.—Mr. James Barker showed a New and Improved Massage Machine.—Messrs. Isenthal and Co. and C. M. Holmquist both showed Modified Forms of Mercury Vapour Lamps.—Various new and improved appliances for use in medical electricity were shown by the Electro Medical Supply Co., Sanitas Electrical Co., Limited, Krupka and Jacoby, Ward and Newman, and Mr. Leslie Miller.—A very good assortment of x ray apparatus was shown by the Medical Supply Association and also by H. W. Cox, Limited.—Owing to an unfortunate accident to apparatus in transit Marconi's Wireless Telegraph Co. were unable to exhibit. The exhibition, which was open to all members of the medical profession, continued from 3 P.M. to 11 P.M. and was taken advantage of by a large number of medical men.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 2nd, Mr. E. Ward being in the chair.—The following cases and pathological specimens were shown: Dr. C. Oldfield: Fibroid Tumour of the Uterus with a Small Lutein Ovarian Cyst.—Mr. W. H Brown: Vermiform Appendix removed from the Cæcum on the left side after an attack of inflammation.—Dr. E. F. Trevelyan: (1) A case of Hemiplegia with the Argyll-Robertson Pupil (Cerebral Syphilis); and (2) a case of Obstructive Tuberculous Laryngitis in which laryngotomy was performed some two or three years ago. Much improvement had taken place.—Dr. A. Sharp and Dr. W. H. M. Telling: A case of Chronic Hypertrophic Subglottic Laryngitis, with Stridor since childhood.—Dr. A. G. Barrs: A case of Tuberculous Enteritis with Acute Destructive Joint Lesions.—Dr. Telling: (1) An early case of Anæsthetic Leprosy; and (2) a case of Diffuse Scleroderma complicating Raynaud's Disease.—Mr. H. Littlewood: Osteoma of the Middle of the Femur (patient and specimen were shown).—Dr. T. Wardrop Griffith: Cerebral Hæmorrhage from a case in which there were Hemiplegia and Hemianopsia.—Mr. R. Lawford Knaggs:

(1) Bladder and Enlarged Prostate showing Enucleation; and (2) Skiagrams illustrating different forms of Dislocation of the Knee.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on Feb. 5th, Mr. A. E. Cumberbatch, the President, being in the chair.—The following gentlemen were elected ordinary members: Mr. H. W. Fitzgerald Powell, Dr. J. S. Barr, Mr. E. S. Steward, Dr. A. K. Gordon, and Dr. H. J. Davis.—A short address was delivered by the President, and cases, &c., were shown by Mr. P. McL. Yearsley, Mr. Lawrence, Mr. Whitehead, Dr. Gray, Dr. Milligan, and Dr. J. Dundas Grant. Among the most interesting was the case of a boy, aged 17 years, shown by Mr. Yearsley. He complained of moderate deafness in the left ear, the tympanic membrane of which was dark blue in colour, that of the right ear being normal.—The discussion which followed failed to elicit any adequate cause for this curious anomaly.

Reviews and Notices of Books.

Histological Studies on the Localisation of Cerebral Function. By ALFRED W. CAMPBELL, M.D. Edin., Pathologist to the Asylums Board of the County of Lancaster. (Published by aid of a subsidy from the Royal Society of London.) Cambridge University Press Warehouse. 1905. Medium 4to, pp. xx.–360. Price 18*s.* net.

THE author in a modest preface sets forth his obligations to his loyal and helpful colleagues, to the generous treatment by the council of the Royal Society, and to Professor C. S. Sherrington "for counsel when in doubt, for encouragement when energy flagged, and for many kind offices." The means for the research have been supplied by the Lancashire Asylums Board and the research was conducted in its laboratory at Rainhill Asylum.

The introduction contains a modest claim, or rather anticipation, more than justified, we think, by the sequence, that this research will help to establish the value of histological work as an auxiliary force in the final settlement of that functional subdivision of the cerebral cortex at which he aims. Perhaps speculation, or rather imagination, led the way to so-called localisation of function. We have travelled far from the idea of one organ one function. Steadily the results of numerous converging lines of research in anatomy, histology, physiology, and pathology—human and comparative—are making less obscure the varied and intricate "thicket" of the cerebral cortex, while the facts of experiment and the still more stern and fateful results as shown by the diseased brain help to illumine the darkness. In this research the triad arranged for the study of the brain is (1) during development, (2) in conditions of disease, and (3) in the normal state, combining, therefore, the researches of embryologist, pathologist, and physiologist with the anatomist as an accepted and established quantity. In fact, a free and harmonious collaboration between workers in the several provinces is a necessary accompaniment to the satisfactory accomplishment of determining the extent of cortical localisation.

The scope of the work may be defined by indicating the titles of its chapters: Cell Lamination and the Arrangement of Nerve Fibres in the Cerebral Cortex; Precentral or Motor Area; Postcentral or Sensory Area and the Intermediate Postcentral Area; Visuo-sensory and Visuo-psychic Areas; Temporal Lobe and the Auditory Areas; Limbic Lobe; Parietal Area; Intermediate Precentral Area; Frontal and Prefrontal Areas; the Island of Reil; and one on the Brains of Felis, Canis, and Sus, compared with that of Homo. Our congratulations are due to one who has pledged his energies to the apparently hopeless task of elucidating problems connected with mental disease and who has given us so excellent and thorough a memoir. It is pleasant to read the historical considerations on "lamination" of the cerebral cortex, of the story of "what Gennari saw" in 1776 to use a modern phrase; but we must pass to Chapter III. to find an account of the line of Baillarger—an important stratification landmark in the cerebral cortex. Years intervene and we omit other historical facts until we come upon the statement of the "superlativeness" of the method of the "Frankfurt Professor"—i.e., the late Professor Weigert. The phraseology is somewhat Teutonic. We are glad to see a warm reference to the work of the late Professor Meynert of Vienna, who was "the first to indicate the existence of a great system of intergyral association fibres."

In 1901 Professor Sherrington and Dr. A. S. F. Grünbaum published their views that the topographical distribution of the motor area needed extensive modification. They employed a method of stimulation beloved of Kühne—the unipolar method—and discovered that the responsive area was confined to the precentral convolution and certain adjacent parts, another example of the value of a method. And here the author (p. 20) claims "that it is just as possible to define the area on the histological bench as on the operating table." Every part of the cortex has been subjected to the most careful microscopic study and in the text are many drawings of the results obtained, while the additional 20 plates afford a proof of the great labour spent on this monograph. We may add that there is a very full reference to the literature. This monograph should be read by anatomists, physiologists, and pathologists alike. Perhaps one of the most interesting summaries is that on the frontal lobe.

Criminal Responsibility. By CHARLES A. MERCIER, M.B. Lond., F.R.C.P. Lond., F.R.C.S. Eng. Oxford: The Clarendon Press. 1905. Pp. 232. Price 7*s.* 6*d.*

ALL crime being in part a problem in psychology it is fitting that the subject of criminal responsibility should be dealt with by the psychologist as well as the lawyer. Dr. Mercier is well qualified for this task, not only by special knowledge but also by reason of an exceptional power of lucid exposition. This work is written as a complement to the well-known treatise of Sir Fitzjames Stephen. It is in a sense a matter for regret that Dr. Mercier's book was not available when the distinguished author of the "History of the Criminal Law of England" wrote his treatise, for we can imagine his satisfaction on discovering, after a weary perusal of medical works, that here at last was a medical writer after his own heart.

Chapter I. treats of Responsibility, which is defined as "the quality of being rightly liable to punishment." All reference to law is purposely excluded in this definition; here, as elsewhere, the author concerns himself with the law as it ought to be rather than as it is. The triple aim of punishment—retribution, determent, and reform—is considered. The principal of these is still, and is likely long to remain, retribution. Dr. Mercier does not think it worth while to consider whether we should forego the retributive end of punishment, the proposal being, he considers, too remote from practicability. Happily, however, we do not experience an imperative desire for retaliation upon the offender in respect to all crimes, and the very suggestion that a process of reform should be applied to criminals implies a weakening of the primitive desire for retribution and the growth of a milder sentiment, under the influence of which it is to be hoped that the criminal will receive as much attention as the crime.

In a chapter upon Voluntary Action Sir Fitzjames Stephen's remark that a distinct conception of normal voluntary action is necessary in order to understand the meaning of compulsion and insanity is approved, and Dr. Mercier says: "I have been insisting for many years that the

morbid cannot be understood without a previous knowledge of the normal, but I do not know that I have gained many adherents." Surely this is an elementary fact upon which no insistence is needed. We hope Dr. Mercier's legal readers will think, as we do, that he has been engaged in a work of supererogation. The deficiencies and errors of Sir Fitzjames Stephen's definition of a voluntary action are exposed and the definition is improved upon, though it becomes rather cumbersome in the process. This chapter, which is largely a criticism of the views of the legal authority mentioned, is in itself sufficient evidence that a training in psychology is necessary to any lawyer who would write upon criminal responsibility. The discussion upon the distinction between motive and intention involves much hair splitting.

In a chapter on Wrong Doing, which is defined as "the seeking of gratification by an unprovoked act of intentional harm," the author appears to be trespassing upon a more strictly legal preserve but to the non-legal mind his illustrations appear unexceptionable and his reasoning sound.

Chapter IV. deals with Insanity. Sir Fitzjames Stephen's demand for "a definite account of the course of symptoms collectively constituting the disease" (insanity) is based upon an inadequate knowledge of the subject and is properly shown here to be impossible to comply with. Dr. Mercier describes the symptoms of insanity as threefold and as comprising disorders of conduct (the most important), of bodily function, and of mind. Of these illustrations are given. We are unable to see that hemiplegia can rightly be described as a symptom of insanity. Because a localised lesion occurs in a limited motor centre which happens to be in greater or less degree a portion of the physical basis of mind, is it proper to describe the resulting localised paralysis as a symptom of insanity? It appears to be merely a concomitant condition. Certain trophic disorders which occur in some cases of insanity but which are not striking are more legitimately described under this heading. To these Dr. Mercier alludes but for reasons stated they are not of importance from his present point of view. It would hardly appear necessary at the present day to demonstrate that a division of insanity into mania and melancholia is unsound and inadequate. Dr. Mercier's non-medical readers have only to consult a modern text-book to find that mania and melancholia are not regarded as complementary or mutually exclusive, or as comprehending all the things to be classified. In a chapter on Mind it is pointed out that of the various faculties or processes of mind the law has regard to only one ("thinking") or possibly two (the other being "willing") in determining the question of criminal responsibility; "yet all the faculties of mind are liable to be disordered, some in several ways." It is shown that the failure adequately to appreciate circumstances exists with all delusions. Undoubtedly this disability is often more important than the delusion itself, to which there is a tendency amongst lawyers to attach exaggerated importance. The reply to the common question, which is based upon the Answers of the Judges in 1843, whether a criminal knew the nature and quality of his act and that it was wrong, depends upon the meaning attributed to the word "know." This Dr. Mercier points out. In a narrow sense the deluded offender does "know." But in the wider sense of appreciation of, and sound judgment as to, all the bearings of the act and the circumstances existing at the time it would be wrong to say that any deluded person "knows." In a later chapter it is shown how the vitiation of reasoning power and unsoundness of judgment may "spread beyond the delusion and the things connected with it to an extent which we can never ascertain or define."

Disorders of will (impulses, obsessions) are considered. Dealing with sexual perversion, Dr. Mercier cannot see why the acts by which the adolescent sexual pervert gratifies his desires should not be punished, as he sees no reason to suppose that the perverted desire is more urgent than the natural one. But whereas he says that the natural desire is susceptible of complete control, he admits (p. 148) that the act of the sexual pervert may be due to the overpowering strength of his desire. We must consider the person excited as well as the cause of his excitement. If these persons are to be punished injustice will be done to many cases of mental defect. In this part of the book there occurs other contentious matter to which reasons of space forbid reference. There is a chapter upon the Answers of the Judges; it is shown that however unsatisfactory the law based upon these may appear it does not in practice lead to such injustice to the insane offender as would warrant application for its alteration. Dr. Mercier lays down the principles which he considers should govern the treatment of insane offenders. He advances here the views which he holds upon the punishment of insane persons. Briefly, he considers that when insane persons commit offences in the sane part of their conduct they are rightly punishable; that morally insane persons cannot be completely exonerated from punishment for certain offences; and that punishment when meted out to insane persons should be mitigated. Notwithstanding the wider meaning which Dr. Mercier would, as we think rightly, attach to the term "knowledge" (of the nature of an act) we are unable to subscribe to these views and believe them to be completely at variance with the bulk of expert opinion. In the concluding chapter on Procedure and Practice there is excellent advice on the subjects of the examination of prisoners and of giving evidence.

Whilst disagreeing with some of the views put forward in this book we find it instructive and interesting and it bears the stamp of that independence of judgment and ability in exposition which characterise the author's work.

International Clinics. Edited by A. O. J. KELLY, A.M., M.D., Philadelphia. Volume I., Fifteenth Series, 1905. London and Philadelphia: J. B. Lippincott Co. 1905. Pp. 312.

THE present volume contains numerous interesting articles on "treatment," medicine, surgery, neurology, and obstetrics, in addition to a summary of the progress of medicine generally. Dr. P. Merklen (Paris) contributes an article on the Treatment of Cardiac Asthma. He first defines the phenomena presented by this condition and then proceeds to show that in its treatment there are three important elements to consider: nervous and paroxysmal dyspnœa; mechanical dyspnœa due to pulmonary stasis and sometimes to pulmonary œdema; and finally, disturbances of the general circulation. Of these the most important is the pulmonary stasis and Dr. Merklen is of opinion that if the attack is severe no hesitation should be felt in resorting to bleeding. Most physicians, we think, will support Dr. Merklen's contention. For preventive treatment he advises theobromin given in doses varying from ten to 15 grains daily. He suggests that this drug, the administration of which the system will tolerate for long periods, should be combined from time to time with digitalin.

Dr. Albert Robin (Paris) is responsible for an interesting communication on the Treatment of Cirrhosis of the Liver, Unusual Syphilis, Tuberculosis, Suffocative Catarrh, and Muco-membranous Enterocolitis; a Clinic in General Medicine. Dr. Archibald Young (Glasgow) deals with Skin-grafting in the Late Treatment of Severe Burns involving extensive areas of skin and gives a description of an essential modification in the operative

technique of Wolfe's or Krause's (whole thickness of the skin) method and adds notes of a series of illustrative cases treated according to this plan. Dr. F. Durante (Rome) publishes a clinical lecture on a New Operative Method for the Total Extirpation of the Larynx. He remarks that all surgeons are familar with the frequency of death following total extirpation of the larynx, the fatal result being due in the great majority of instances to inhalation pneumonia. The operative procedures hitherto devised to obviate this serious complication have failed to achieve the desired object, because they do not succeed in preventing the mucus and the saliva, which drop from the mouth, the posterior nares, and the pharynx, from reaching the bleeding surface and the trunk of the trachea, which latter, situated at the bottom of the large wound, acts as a funnel to convey these products to the lungs. To obviate this difficulty Dr. Durante has devised an operative procedure comprising the formation of a cutaneous flap intended to close the pharyngeal œsophageal opening, so that the mucous and salivary secretions may be conveyed directly into the œsophagus and the large bleeding wound which remains after the larynx has been extirpated may be reduced to a minimum. Dr. R. A. Hibbs (New York) communicates some interesting observations on Disease of the Knee-joint.

In the section on Neurology Dr. J. Walter Carr (London) reports a case of Cerebellar Tumour and Dr. Edwin Bramwell (Edinburgh) comments on two cases of Ocular Palsy in both of which the paralysis was probably dependent upon a lesion in the neighbourhood of the sphenoidal fissure.

On the whole this volume of "International Clinics" well maintains the high standard of its predecessors.

The Nature and Origin of Living Matter. By H. CHARLTON BASTIAN, M.A., M.D. Lond., F.R.S., F.L.S., &c., Consulting Physician to University College Hospital, &c. London: T. Fisher Unwin. 1905. Pp. 344. Price 12*s.* 6*d.* net.

WITH the progress of knowledge opinions change and the most cherished beliefs of one generation may become the laughing-stocks of the next. On few subjects can we claim to have attained to anything approaching certainty and the attitude of the scientific mind must be one of readiness to adapt its beliefs to ascertained facts, unbiassed by previous opinion or recognised authority. At the present day there is perhaps no scientific tenet more firmly held than that of the impossibility of spontaneous generation under existing conditions. The doctrine, "*Omne vivum e vivo*," is almost universally held to be beyond the sphere of controversy, a sharp dividing line apparently separating living from dead matter. This belief was not always held; the ancients believed in the spontaneous generation of bees, for example, from a decomposing carcass and other similar phenomena were until quite recent times supposed to occur. As knowledge gradually advanced the possibility of such a *de novo* origin of life was relegated to lower and lower spheres, and what seemed the final stronghold of the defenders of this doctrine, the origin of bacteria from non-living substances, seemed decisively overthrown by the labours of Pasteur and the early bacteriologists.

In the book before us Dr. Bastian attempts to show that there is definite evidence not only that spontaneous generation of lowly organisms does occur but also that there is no such fixity of form among them as is generally held to obtain, one variety of protozoon being able to give rise to another, and even bacterial aggregates sometimes developing into higher forms. The two alleged phenomena—spontaneous generation and mutation of species—are radically distinct and the former, called by Dr. Bastian archebiosis, is of far more importance than the latter or heterogenesis. The assumption that at some time or other in the past history of the earth living matter originated from non-living substance is justified in the eyes of those who make it by asking the question, What other theory will work? Certainly the suggestion that life was brought to this planet in some manner from other parts of the universe only throws the problem of the origin of life a step further back, while introducing a difficulty, that of the conveyance of living germs across space; but one speculation will seem to practical men as jejune as the other, at any rate with our present capacities for research.

Still we must regard the question as one of evidence, and Dr. Bastian brings forward evidence which he believes to be conclusive in favour of what he terms archebiosis. He points out that when organs are removed with all aseptic precautions from the body of an animal and coated with paraffin bacteria nevertheless develop within them, yet it is not supposed that such germs exist naturally in living tissues. The same phenomenon takes place in vegetables kept under antiseptic conditions in which an infection by bacteria is difficult to conceive. The only alternative to the spontaneous development of living organisms from dead tissues is the supposition of latent organisms normally present in living bodies, or an error in technique. Dr. Bastian has observed the actual process of development of bacteria in a thin film of nutrient medium, this development starting at points where absolutely no sign of any solid particle can at first be seen; a minute speck at length appears and grows into a bacillus. He admits that boiling a nutrient medium keeps it aseptic indefinitely; no spontaneous generation takes place but, of course, it can be argued that boiling has altered the quality of the fluid. The same alteration may perhaps be produced by passing it through a porcelain filter and an experiment is cited by the author bearing out this suggestion. Such is Dr. Bastian's position respecting archebiosis; here in default of actual evidence probability must be our guide in interpreting phenomena. On the subject of heterogenesis he quotes a multitude of observations upon low forms of life, both animal and vegetable. He maintains that bacterial zoögloeæ may develop not only into fungi but into amœbæ, that euglenæ may change into peranemata and into ciliata, that the resting spores of vaucheria may develop into amœbæ, and so on.

Of the careful and painstaking nature of Dr. Bastian's researches there can be no doubt. Probably few other observers are in a position to contradict his conclusions from personal experience, although these conclusions are at absolute variance with accepted biological teaching. Our knowledge of the life-history of these lowly living things is confessedly inadequate, and it is no unusual experience in biology to find that what has long been looked upon as a distinct species is only a stage in the development of another well-known organism. But how far the discovery of one or two such occurrences would help to reconcile Dr. Bastian's position with that taken up by observers of equal eminence, whose views are followed by the scientific world, is another question. To our mind it would seem certain that as facilities for research increase increased knowledge may lead to many changes in classification without having deeper significance.

LIBRARY TABLE.

Harrison's Medical Charts. Published by the Pembrokeroad Nursing Home.—These charts are two in number, respectively known as "No. 1" and "No. 2." "No. 1" is in the form of a temperature chart. It differs from most other charts which we have seen in having the divisions of each degree of temperature clearly numbered. The centigrade and the Fahrenheit scales are both provided.

Beneath the chart are spaces in which the pulse and respiration rates, the amount of urine passed, the specific gravity of the urine, and the presence of albumin or sugar may be duly recorded. "No. 2" is in a form that may be conveniently used by the nurse when making the daily records. The medical practitioner in attendance on the case is able to see at a glance the progress or the reverse that has been made since his last visit. The charts are of a convenient size and will be found useful more particularly in general practice.

An Examination of the Condition of Primary Schools in Dublin in 1905. By Sir CHARLES A. CAMERON, C.B., M.D. R.U.I., &c. Dublin: Printed by John Falconer. 1905. Pp. 37.—This short pamphlet contains details of the results of an examination of 174 national schools. "The primary schools under the management of the Christian Brothers and the Church Education Society were not examined as yet." The report states that though many schools are up to a high standard from a sanitary point of view, yet a much larger number are far from being in a satisfactory condition. From p. 8 the report consists of tabular matter giving details as to the name of the school, whether for boys, girls, or infants, the average number of attendances, the cubic space and floor space per pupil, the drainage, the sanitary accommodation, and other matters. The various defects, where existing, can thus be clearly seen by the authorities of the schools in question and we may echo Sir Charles Cameron's hope that "this examination of schools will be the means of causing many of these defective conditions to be remedied."

Catherine Grace Loch, R.R.C.: A Memoir. With an Introduction by Lord ROBERTS. London: Henry Frowde. 1905. Pp. 355. Price 4*s.* net.—This unpretending little work will be read with interest by all medical men and more especially by two classes of them—namely, officers of the Indian Medical Service and St. Bartholomew's Hospital men. All medical men who were at that hospital from about 1882 to 1887 will recollect "Sister Darker" and how admirable a sister she was. Miss Loch was born in 1854 and was trained as a nurse at the Royal County Hospital, Winchester. She went to St. Bartholomew's Hospital in 1882 and in 1888 left for India as one of the lady superintendents of the newly formed Indian Nursing Service. Her companions were another superintendent and eight nursing sisters. The reforms which the formation of the nursing service effected are, it would appear, comparable to those brought about in the Crimea by the arrival of Florence Nightingale and her devoted helpers, at least as regards the removal of "red tape" restrictions. The main portion of the book is occupied with selections from Miss Loch's journals and there is an appendix containing papers on various subjects connected with nursing written by her, together with appreciations from those who knew her. She died from cerebral hæmorrhage in 1904. The book is a worthy record of a bright, intelligent, earnest-minded woman.

Official Year-Book of the Scientific and Learned Societies of Great Britain and Ireland, 1905. London: C. Griffin and Son, Limited. 1905. Pp. 309. Price 7*s.* 6*d.*—This volume is a record of the work done in science, literature, and art by various societies and Government institutions during the session 1904–05. It is valuable for reference, for in its pages can be seen at a glance what papers were read, what subjects were dealt with, and who were the persons working in the different branches of science, literature, or art. Among the many year-books this, from our special point of view, is one of the most useful.

The Oxford Year-Book and Directory, 1906. London: Swan, Sonnenschein and Co., Limited. Pp. 764. Price 5*s.* net.—This is a work of reference which will certainly appeal to Oxford men. It is, of course, extremely difficult in a book of this kind to keep all the entries up to date and from a casual examination of sundry names in this edition we notice that a good many of them are not accurate as regards present conditions. On the whole, though, the book will be found useful.

New Inventions.

AN IMPROVED DENTAL ELEVATOR.

WITH a view to economising time as well as avoiding the inconvenience of changing instruments I have designed the double blade elevator shown in the accompanying illustration. It is a combination of the well-known right or left curved elevators and possesses the advantages of both these instruments. I have had an elevator of this pattern in use

for some two years in hospital and private practice and have found it most useful in cases in which a number of dental extractions had to be performed in a minimum of time and with a minimum of instruments. For purposes of description I call it a "fish-tail" elevator. It is manufactured by Messrs. Allen and Hanburys, Limited, 48, Wigmore-street, London, W.

C. EDWARD WALLIS,
Assistant Dental Surgeon to King's College Hospital.
Queen Anne-street, W.

LITHOTOMY STRAPS.

AN improved set of lithotomy straps designed by me is made of strong white webbing; the straps have running loops for applying just above the ankles, with a sliding buckle on the outside of each leg. The other end of these ankle straps is attached to the neck strap by means of a buckle. The neck strap passes round the patient's neck in the same way as a Clover's crutch, viz., one end over and the other under the shoulders respectively. The leg buckle being a sliding one permits the ankle loop to alter in size to fit any leg, whilst the neck strap can be made to pull the legs up to the required tension. The patient is placed in the lithotomy position and by means of these straps the legs are kept well apart, and more so if

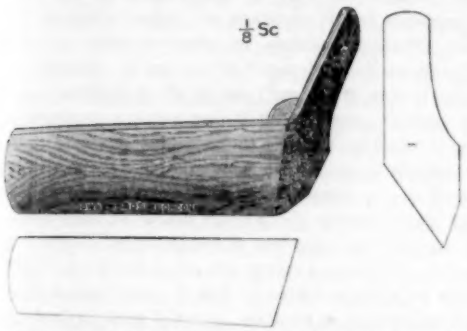
the patient is under an anæsthetic. There is no bar to interfere with urethral instruments. They are compact and easily sterilised. They are made by Messrs. Cuxson, Gerrard, and Co., Corporation-street, Birmingham, and cost 5s. the set.

THOMAS YOUNG SIMPSON, M.B., B.S. Durh.,
M.R.C.S. Eng., L.R.C.P. Lond.

Plymouth.

A NEW SPLINT FOR COMPOUND FRACTURES OF THE HUMERUS.

THE illustration given below is that of a modified angular arm splint adapted for application to the anterior surfaces of the upper and fore arm, whilst allowing the latter to be held midway between supination and pronation, i.e., in the most comfortable position. By its use accurate apposition of the fragments may be continuously maintained in such severe compound fractures of the humerus as involve the outer and inner aspects of the upper arm at once, and



which thereby entail the removal of an internal or external angular splint and consequent disturbance of the parts when dressing the wounds. The idea can be easily carried out by an amateur carpenter and as I have found it most useful in such a case it may possibly be of some help to others in similar emergencies. It is made wider than usual to allow of firm bandaging without producing venous congestion, a point neglected in many splints. Both a right and left pattern are, of course, necessary. It has been made for me by Messrs. Down Brothers.

Nottingham. ALEX. R. TWEEDIE, F.R.C.S. Eng.

LEPROSY IN NEW SOUTH WALES.

THE report of the Board of Health on leprosy in New South Wales for the year 1904 was issued on Oct. 31st, 1905. During 1904 eight cases of leprosy were admitted, making, with those remaining in the lazaret from the previous year, 18 in all; of these one leper died during 1904, leaving on Dec. 31st, 1904, 17 lepers under treatment; of these 13 were whites and four were coloured lepers. The total number of lepers admitted into the lazaret since it was opened in 1883 amounts to 96; of this number 44 were whites and 52 were coloured lepers. It must, however, be noted in this connexion that it is only since 1890 that the notification of leprosy has been compulsory in New South Wales and the detention of lepers made lawful. During the 22 years (1883–1904) the several admissions were distributed according to years as follows: 5, 2, 2, 3, 1, 4, 2, 2, 10, 12, 7, 5, 3, 3, 2, 4, 1, 1, 8, 1, 10, and 8. These numbers serve to show the chronicity and persistency of leprous infection in an infected area and the slight tendency to a rise and fall of the numbers of lepers in a given district. The youngest leper admitted was a schoolboy, aged 13 years, born in Fiji of European descent; the oldest leper on admission was an English seaman, aged 75 years. The occupations of the lepers before admission were various, no trade seemingly predominating and almost all trades being fairly represented.

The analysis of cases by Dr. J. Ashburton Thompson, the President of the Board of Health, which were admitted during 1904 is interesting reading.

CASE 88.—A married female, aged 19 years, a native (European) of New South Wales; her father was admitted into the lazaret in 1890. The girl had lived during the first five years of her life in the same abode as her leprous father. The girl's mother, brothers, and sisters, husband and child (aged one year) were not lepers.

CASE 89.—A female, aged 17 years, born in Sydney, New South Wales, of European parents. She had worked for two months at a box factory and for three weeks at a printer's. Neither of her parents nor her brothers and sisters were leprous, nor were any relatives or neighbours with whom the girl associated leprous.

CASE 90.—A male, aged 54 years, a teamster, born at Botany, New South Wales, of European parents. At the age of 20 years he travelled round the State with elephants, otherwise he always lived at Botany. For seven years before becoming leprous he worked as a carter, carrying hides from the abattoir. Neither his wife nor any of his five children were leprous. The source of the infection was unknown.

CASE 91.—A male, aged 24 years, a laundryman. This patient was a Chinaman; he had been three years in Sydney before becoming leprous.

CASE 92.—A male, aged 35 years, a labourer in the cane fields. He was a native of New Hebrides. He arrived in Queensland 15 years ago. He was acquainted with other lepers.

CASE 93.—A male, aged 65 years, a soldier. He was a native of England. He was married; he had nine children, none of whom were leprous. He had been stationed at Ceylon and New Zealand and went to live in New South Wales in 1866.

CASE 94.—A male, aged 32 years, a Chinese labourer. He had lived in New South Wales several years previously to the attack.

CASE 95.—A male, aged 23 years, a house painter, born in New South Wales, of European parents. He served in South Africa as a soldier in the cavalry; whilst in Johannesburg in 1902 he noticed first symptoms of leprosy. Neither father or mother nor any one of his six brothers and sisters was leprous.

These cases admitted during 1904 serve to indicate the history of the persons suffering from leprosy who have been admitted in the lazaret since 1883. The proportion of persons of European descent or actually born in Europe who have developed leprosy in New South Wales is very large and it would seem that in no part of the British Empire are so many white people attacked by leprosy relatively to the population as in the Antipodes. The cause of this is unknown, nor is there any known means of ascertaining the cause; for the medium of communication and the extra-corporeal life of the bacillus lepræ are as yet unascertained. That the infection is apparently communicable from parent to child is occasionally the case, but there is nothing of the nature of proof that it is so. That the disease is conveyed by contact with any animal or by engaging in any trade or pursuit is likewise not proven. The development of cases seems so sporadic yet so persistent in some localities that a focus of infection would seem likely, but what that focus is or how the disease is spread therefrom is equally a mystery at present.

What is described in the report as the Lismore group of cases would seem to indicate family contamination, for the proofs that the members of the family lived together or that some of them had ever met for several years are not conclusive. The fact also that some of the cases mentioned in the Lismore group were not pronounced to be lepers during life would seem to throw some doubt upon the accuracy of the diagnosis.

ST. BARTHOLOMEW'S HOSPITAL: THE LUTHER HOLDEN RESEARCH SCHOLARSHIP.—Mr. Harold W. Wilson, F.R.C.S. Eng., late house surgeon to St Bartholomew's Hospital, has been elected to the Luther Holden research scholarship in surgery for one year. The scholarship is of the annual value of 100 guineas and was founded by the bequest of the late Mr. Luther Holden, formerly surgeon to St. Bartholomew's Hospital and President of the Royal College of Surgeons of England. The holder of the scholarship must carry out such research work in surgery as may be approved by the electors either in the United Kingdom or abroad. Mr. Wilson has proposed to carry on research work in urinary surgery.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 10, 1906.

The State of the Medical Curriculum.

SIGNS are accumulating that the present arrangement of the medical curriculum gives little satisfaction to either teachers or students. The falling off in the number of entries at the London medical schools is, as all our readers know, largely explicable on other grounds, but it is a continuation of the decrease which ensued upon the institution of the five years' course—a change which greatly increased the expense involved in obtaining a qualification. A consciousness that the profession was becoming somewhat overcrowded has had something to do with the decreasing entries at many centres, while in London the difficulty in obtaining a medical degree has had disastrous effect. The dissatisfaction felt by many of the teachers of medicine is exemplified in the proposal which recently came before the Royal Colleges of Physicians of London and Surgeons of England for altering the time for the study of certain of the preliminary subjects. This was an attempt on the part of the bodies mainly concerned in London medical education to meet the growing sense that the curriculum was overcrowded and disorderly, facts which have been frequently insisted upon in our columns and which are tersely put forward in a letter from Dr. CECIL BOSANQUET, which we publish this week. The difficulty of insisting upon a due proportion of the student's time being devoted to clinical work in view of the claims of the ancillary sciences is increasing. It is admitted, indeed, that whereas the additional year of study was provided with the special object of allowing more time to be devoted to clinical work, the actual effect of the change has been inappreciable in this direction. As is pointed out by Dr. BOSANQUET, the existing arrangement is an attempt at a compromise between the conflicting claims of various branches of knowledge, and as the sum of our knowledge increases so there is a tendency to keep adding to the subjects which are regarded as essential for the mental equipment of a medical man. Unfortunately, the capacity of the human mind for assimilating information does not grow very perceptibly greater, and we have to acknowledge that, however much we may endeavour to cram into it, only a limited amount will stick in the meshes of the sieve, the rest merely running through at varying rates in different cases.

Everyone who has been brought much into contact with medical students at the present time must admit that only a small proportion of the earlier subjects remains as an effective mental asset at the time of the final examination, while there is reason to fear that much of the theoretical matter insisted upon, even for final examination purposes, is soon excreted under conditions of actual practice. Now, if some fundamental recasting of the curriculum is called for, as we can hardly doubt, it is important to keep steadily in mind the true object at which we have to aim. We agree with Dr. BOSANQUET, for indeed we have said much the same thing in different words, that this object is divisible into two heads—namely, the special professional knowledge which will render a man capable of dealing with sick persons in the most efficient manner, and the general culture which enables him to take his place among educated men as a member of a learned profession and as an individual intellectually "totus teres atque rotundus." This general education it is no part of the medical curriculum to supply, but on those who preside over it rests the duty of instituting such an entrance examination for all candidates for medical qualifications as shall effectually maintain an adequate level of culture. No arduous standard could, of course, be enforced, especially in view of the early age at which students enter on the medical course—and it is permissible to speculate as to the advisability of raising that age—but it should at least be possible to insure that those who pass the examination should have a reasonable knowledge of their mother tongue and should possess the average degree of information to be expected from members of the cultivated classes at that period of life. Leaving out of account the universities at which a degree in Arts is compulsory before one can be obtained in medicine, it would seem desirable that the preliminary examination should be the same for all candidates for the different professions. The Board of Education, through a consultative committee, has recently proposed to inaugurate such a scheme and in so doing has been assisted in its efforts by the General Medical Council. The consultative committee considers that a general system of school certificates should be granted upon examinations controlled by a combination of universities and of local bodies coöperating with them, and we agree with this view, for the more generally representative the preliminary education the better it will serve the purpose of the medical student. A considerable range of alternative subjects might be left open to candidates so as to admit of recognising abilities in all directions, for all minds are not alike and should not all be tested in the same sieve.

There can be no doubt that the number of purely professional subjects in which examinations have to be passed by the medical student needs reduction, and that to enable a judgment to be formed as to what is necessary and what superfluous a clear view of the object to be aimed at must be maintained. In order to secure the best possible treatment of the sick it is necessary to reverse the old jibe at physicians as men who poured drugs of which they knew little into bodies of which they knew less. The modern practitioner must, on the one hand, possess an adequate acquaintance with the structure and functions of the body so far as science has discovered them, and, on the other hand, he must be expert with the weapons of offence and defence which have been forged for the battle against disease. The former branches of knowledge are the subject matter of the sciences of anatomy and physiology, the latter of pathology, materia medica and therapeutics, while chemistry enters into both

alike and seems destined to occupy a position of increasing importance in solving the problems of both physiology and pathology in the future. A sound knowledge of the essential truths of these branches of science is therefore absolutely indispensable to every modern medical man as the basis of his practical skill, which last is only to be obtained by a constant and painstaking application of all his powers to the study of the problems of disease at the bedside. To this last all the other studies are subordinate and any scheme which reverses this relation is radically unsound. What, then, it may be asked, is it possible to omit from the existing scheme of studies? There remain the sciences of physics and biology at present confronting the student at the threshold of his career. True it is that an elementary knowledge of both ought at the present day to form part of the intellectual equipment of all educated men, but how far is such knowledge more necessary for the members of the medical profession than for those of any other liberal calling? And as a matter of experience, how much of the knowledge gained during the study of these preliminary subjects does the student actually retain at the time when a small amount of theoretical physics is needed? We believe that anyone of average ability and sound general training who came fresh to such a subject would be in a good position to comprehend the small amount of technicality needed and that many students have wasted precious hours over a study which is thrown aside as soon as the necessary examination is over. We do not for one moment deny that an acquaintance with both physics and biology is valuable, highly valuable. We would have every student thoroughly grounded, nay, thoroughly expert, in each if this were possible. But it is not. The curriculum is overloaded and compromise has become necessary. These sciences might form part of the entrance examination as optional subjects, for which enough marks might be given to encourage candidates to study them. Those who studied them most deeply would continue to study them and would naturally tend towards the purely scientific side of their profession. Those who did not elect to pass in them would in our opinion make none the less valuable practitioners in thousands of responsible situations. The five years of the medical course would then be less crowded than at present and more time would be available for what is indispensable. As things are it is the essentials which suffer. We tithe mint and anise and cummin, and forget the weightier matters of the law, and as a result we bind on our students burdens too grievous to be borne.

Scientific Disinfection.

NOT many years ago the only experimental means at our disposal of determining the disinfecting powers of a substance consisted in observing the amount of that substance which was required to arrest in a given time the putrefactive process in a liquid easily susceptible of change. Some sort of rough classification amongst certain chemical substances was thus set up, and such relative terms as "powerful," "strong," "moderate," and "feeble" were used to indicate the comparative disinfecting efficiency of each agent. Later, the method was made approximately quantitative. As the relationship of germs to disease came to be recognised, and also the fact that different germs possessed different powers of resistance to specific substances, such a method of assaying the germicidal efficiency of a disinfectant proved to be an altogether untrustworthy means of evaluation. Chemical analysis gives valuable data so far as it affords information as to the amount of active agent present, but we now know that the efficiency of a given antiseptic does not necessarily depend upon the proportion of a particular chemical substance present, for in some cases at least an association of substances proves to be more powerful. Physical conditions also count in the case of both the disinfectant and the matter to be disinfected. The disinfectant of to-day must show something more than chemical strength and, in fact, nothing short of a bacterial hall mark of efficiency is required, as in no other way can the slightest hope be entertained of exterminating infective forces. This is a sound principle in the practice of disinfection which every sanitarian must recognise, and yet in daily application it is very generally ignored and practically no greater care is taken in these days of advanced bacteriological knowledge scientifically to choose a disinfectant than was taken in the days when anti putrefactive power was employed for standardisation purposes. The points which some local authorities seem to regard as essential in a disinfectant are cheapness, appearance of strength, and a more or less powerful smell—agreeable or disagreeable according as they choose to think an aromatic odour or a rank odour the better proof of efficacy. The practical business of disinfectants is not to soothe susceptibilities by tickling the nostril but to destroy infection.

It is satisfactory, therefore, to learn that the feeling is gradually but surely spreading that some method of standardisation of disinfectants based on their power to kill the microscopic entities of disease ought to be adopted officially. Methods are not wanting which can be trustworthily applied to the purpose. We need only refer to the recent report, made on behalf of the Disinfectant Standardisation Committee appointed by the Royal Sanitary Institute. This report was signed by Professor ALLAN MACFADYEN and Lieutenant-Colonel R. H. FIRTH, R.A.M.C., and is published in the February number of the journal of the institute. In the same number, too, is a paper of great practical value on the identical subject by Dr. HENRY R. KENWOOD and Dr. R. T. HEWLETT who point out the importance, when experimentally determining the germicidal efficiency of a disinfectant, of taking into account the influence of the associated organic matter upon the potentialities of the disinfectant. Their experiments were accordingly made with typhoid stools and urine with the view of determining the absolute and relative value of a few disinfectants under the conditions that obtain in practice. The detection of the bacillus coli was made the basis of the tests, and it may fairly be assumed that where the bacillus coli has been destroyed the bacillus typhosus has certainly also been destroyed. Two sets of experiments were made independently by Dr. KENWOOD and Dr. HEWLETT. As might be anticipated, the results when two disinfectants were tested by this direct and practical method showed a falling off in

germicidal efficiency (as represented in a carbolic acid coefficient) compared with the results which will be obtained in the RIDEAL-WALKER experiments where a pure culture is taken. The reduction of germicidal efficiency in the two disinfectants employed amounted to 60 and 40 per cent. respectively. Dr. KENWOOD and Dr. HEWLETT very rightly urge that a margin of safety should be allowed in practice, and suggest that the minimum amount of a disinfectant which is effective under standard conditions for sterilisation purposes should for practical use be doubled while a still larger multiple might with advantage be employed.

In view of these results it is obviously desirable that a carbolic acid coefficient should be based on the most exacting requirements of actual practice, taking into account the environment of the pathogenic organisms which, in some cases at any rate, is calculated to weaken the germicidal agent. It should not be difficult to supply such a guarantee and medical officers should demand it. If disinfectants are to be reckoned as weapons at all in the fight against disease their thrust should have an unmistakeably fatal effect on the enemy.

The Metropolitan Water Board: the Monthly Report of the Water Examinations.

WE have received the first monthly report of Dr. A. C. HOUSTON, the director of water examinations of the Metropolitan Water Board, which deals with the month of November, 1905. Considering the size of the document—over 90 large pages the bulk of which is tabular matter—its appearance at the beginning of February is very praiseworthy. The results of the chemical and bacteriological examination of the London waters for the month in question are set out very fully—more fully, it should be mentioned, than they will in all probability be in future reports of the kind. This pioneer report is issued in an extended form to show the scope of the work done at the laboratory and the precautions taken by Dr. HOUSTON and his assistants to secure for the enormous *clientèle* of the Metropolitan Water Board a pure water-supply. Future reports will, we are informed, be in a condensed form, although the labours represented by the summaries will be no less detailed than exacting.

Dr. HOUSTON'S report, after enumerating the number and sources of samples—chemical, bacteriological, and special—taken from raw and filtered waters, explains the number and nature of the tests applied to the specimens and gives a summary of the bacteriological and chemical results. The bacteriological results are considered under the headings of (*a*) the number of microbes; (*b*) the bacillus coli test; and (*c*) the bacillus enteritidis sporogenes test. To these tabular statements, which may be regarded as laboratory documents, there are added 11 appendices dealing with various meteorological and statistical information, with visits made for sampling or other purposes during the month, and so on, together with sketch maps illustrating the waterworks. It may be remembered that now eight years ago we published in THE LANCET an exhaustive report on the metropolitan water-supply. At that time, of course, the water-supply of London was in the hands of eight separate companies, while a Royal Commission was about to sit and to consider, firstly, the arguments for the consolidation of these undertakings under one central board, and secondly, if such consolidation seemed advisable the price that should be paid to the separate companies for the resignation of their rights. Our Special Commissioner, with a view of furnishing the public with the information upon which the report of the Royal Commissioners would in many directions turn, made, with the hearty coöperation of the companies, a series of visits to all the works. He described every pipe, main, reservoir, and distributing surface connected with each of the companies, and all of these details, together with the areas of distribution, were shown in a series of maps drawn expressly for the purpose. These maps and illustrations proved to be a source of valuable information to the public, for nothing of the sort was available elsewhere, and few of the citizens of London had any idea either of the magnitude of the London water companies, of the elaborate precautions taken by some of them against pollution, or of the defenceless attitude of the purchaser in his dealings with these great undertakings.

As is well known, the Royal Commission duly sat under Lord LLANDAFF, and from its conclusions arose the Metropolitan Water Board, under which Dr. HOUSTON acts. We recommend our readers, particularly our London readers, to peruse Dr. HOUSTON'S reports as they come out and to examine the excellent sketch maps in the present document. If these maps are examined carefully, and particularly if they are looked at in connexion with the far more elaborate and detailed plans which appeared in THE LANCET in 1897, the reader will get a very good idea of what the water-supply of the metropolis really is and what are the dangers of pollution or shortage. It is important that all medical men should be alert to the difficulty of supplying a huge city like London with pure water. It must not be supposed that difficulties in respect of the water-supply of London have come to an end with a consolidation scheme. The population of London grows apace. Even though the birth-rate shares in the general decline of birth-rates, the fact remains that London grows each year by enough persons to make up in themselves a great city, to say nothing of an addition of 800 aliens per week. The Thames, the Lea, and certain chalk wells may appear inexhaustible but we may be certain that the Metropolitan Water Board does not think so.

Annotations.

"Ne quid nimis."

THE EMPIRE'S SCHOOL OF TECHNOLOGICAL SCIENCE.

AT length it would seem that the scheme which has long been desired in this country of providing an efficient centre of higher technical education is about to be realised. The matter has been the subject of inquiry for about two years by an admirably constituted departmental committee which has just concluded its labours in the form of a report which throws great credit on the energies and ability of the members who comprised the committee and whose names are as follows: Mr. R. B. Haldane, K.C., M.P., Sir Francis Mowatt, Sir W. de W. Abney, F.R.S., Sir William S. Church, Mr. A. H. Leech, Sir Philip Magnus,

M.P., Mr. Walter McDermott, Mr. F. G. Ogilvie, Lord Reay, Sir Arthur W. Rücker, F.R.S., Mr. Sidney Webb, Sir Julius C. Wernher, Sir William H. White, F.R.S., Mr. J. C. G. Sykes (secretary), and Mr. F. E. Douglas (assistant secretary). The object of the scheme in the terms of the report is "the establishment of an institution or group of associated colleges of science and technology where the highest specialised instruction should be given and where the fullest equipment for the most advanced training and research should be provided in various branches of science, especially in its application to industry, for which no sufficient provision exists elsewhere." It is proposed that the new College of Science should be situated in South Kensington where are the present College of Science, the School of Mines, the New Physical and Chemical Laboratories, and the Central Technical College. Sanction from the Government has been obtained to place these institutions under the new *régime*, together with an annual grant of £20,000 for maintenance. Further, the Commissioners of the Exhibition of 1851 are prepared to grant the unoccupied portion of their estate at South Kensington under conditions which there should be little difficulty in satisfying. Over £100,000 have been promised by Messrs. Wernher, Beit, and Co. for buildings and initial equipment and the London County Council anticipates contributing an annual sum of £20,000 to the funds. It is considered that the scheme should have the coöperation of the University of London and the council of the City and Guilds of London Institute. As to the governing body, 40 members are proposed, representing respectively six members appointed by the Crown, four by the Board of Education, and five each by the University of London, the London County Council, and the council of the City and Guilds Institute. Other members would represent the teaching staff, the Exhibition (1851) Commissioners, the Royal Society, the Society of Chemical Industry, and the principal engineering societies. So well is the scheme advancing that there is every reason for believing that in a very short time this country will be able to boast of the actual existence of an institution in which will be adequately provided facilities for advanced instruction and for conducting research in science more particularly in its application to industry. No longer, therefore, will it be a national reproach that ways and means towards this end have hitherto not been forthcoming—an omission which has long been a menace to our industrial supremacy.

SCIENCE IN THE SERVICE OF FRAUD.

IN some ways the detection of adulteration is resolving itself into a scheme for exposing the devices of skilled scientific men, for there is little doubt that there are men who in the name of science aid and encourage the practice of adulteration and who place their knowledge and skill at the disposal of manufacturers, knowing full well that their advice and suggestions are to be applied with the deliberate aim of defeating the detection of fraud. The manufacturers of such goods may, of course, have received sufficient training themselves in scientific and technical matters to enable them to apply their knowledge to dishonourable practices but it is more probable that the services and counsel of an expert are called in. The occupation which such an expert chooses to follow for his own gain can only be described as contemptible, and if his services in this direction can be proved to have been offered with the object of defeating justice it seems to us that the law should be able to reach him and to mete out to him a severe reward in the shape of imprisonment. Analysts are constantly confronted with considerable difficulties in the detection of modern fraud, so ingenious are the tricks of unscrupulous persons. Indeed, the tricks bear unmistakeable evidence of a scientific conjuror who knows perfectly well what the analyst is guided by in making a search for adulterations. The analyst looks, for example, for certain factors in a food which when he has found them to satisfy a given standard he regards as evidence of genuineness, and yet the article may be a fraud, the factors being artificial and manipulated by the scientific adviser. Such may be the case especially with oils and with butter, the genuineness of which is judged partly by physical constants and partly by chemical behaviour. The physical constants and the chemical behaviour may respond as though the article were genuine but all the same it may not be so but may only show the characteristics of the genuine substance which after all may have been artificially given to it. A sample of genuine brandy, for example, contains a certain proportion of ethers but it does not follow that because a spirit contains this amount of ethers it is genuine brandy. Ther can be no doubt that when a standard of ethers, rightly or wrongly, was laid down for brandy this deficiency in spurious brandy was made up, on the advice of an expert, by adding artificial ethers. Yet another example. A genuine wine contains fairly constant amounts of alcohol, tannin, glycerine, and so on, but it would be utterly unscientific to conclude that because an article described as wine contained these things in the same amount it was genuine wine. And there is little doubt that advice is cheerfully offered by experts in the name of science to give a false *tout ensemble* to many articles of food as well as clothing. Their education, knowledge, and skill do not exempt them from being branded as infamous cheats; on the contrary, their conduct is more contemptible than if they were ignorant men.

THE MILK-SUPPLY OF SCHOOLS.

WE have before us a report of a preliminary inquiry on the subject of the milk-supply of schools which has been drawn up by Dr. C. E. Shelly, consulting medical officer to Haileybury College, and published by the Medical Officers of Schools Association. This inquiry was the outcome of a paper read before the association by Dr. Christopher Childs, in which it was urged that recommendations should be formulated for safeguarding the milk-supply of schools by sterilisation or otherwise. It was recognised by the council that on so controversial a question no authoritative pronouncement could be made until trustworthy statistics with regard to the extent to which disease among school children could be traced to infection conveyed by milk had been collected and examined. With the object of procuring such statistics more than 100 circulars were forwarded to the medical officers of representative schools throughout the country containing certain definite questions to which answers on printed forms were solicited. In response to these circulars answers were received from 43 correspondents supplying details as requested with regard to the source of the milk-supply, the precautions adopted, and the diseases contracted. The information thus collected has been tabulated and analysed by Dr. Shelly and the observations, which have been estimated to cover a total of 33,894 children during a period of 18 years, show a record of 10 cases of diphtheria, 20 cases of enteric fever, 50 cases of diarrhœa, and 75 of sore-throat, all of which are attributed by the respective medical officers to infection conveyed by milk. The incidence of these diseases on children attending schools at which precautions have and have not been taken is certainly instructive, though by no means conclusive, as evidence in favour of safeguarding the purity of the milk by any particular means or method. The individual children who are included in the statistics are classified as belonging to schools at which (1) precautions are taken to safeguard the milk at the source of supply; (2) precautions are taken both at the source and at the school

premises; (3) partial precautions are taken; and (4) no special precautions are taken. In Group 1 no illness of any kind is reported as traceable to milk infection; in Group 2 there are 50 cases of diphtheria and 35 of sore throat; in Group 3 there are ten of diphtheria and 40 of sore-throat; and in Group 4 there are 20 cases of enteric fever. Taken apart from their context these statistics might be made to prove anything, but when the particular conditions influencing each group of cases are taken into consideration any general deduction seems impossible, except that in a comparatively insignificant number of cases disease might have been prevented had more thorough precautions been taken in the method of handling and distributing the milk. If, however, this preliminary inquiry elicits no statistics which can be regarded as sufficiently conclusive for general deductions it at least emphasis s the apparent indifference of medical officers of schools on the question of the milk-supply and of the precautions which might be taken to ensure its purity and freedom from contamination.

THE SALARIES OF POOR-LAW MEDICAL OFFICERS.

WE published last week[1] a letter calling attention to the inadequacy of the salaries and fees paid to Poor-law medical officers and suggesting that the inquiries of the Poor-law Commission now sitting may possibly include this highly important subject. The writer further contrasts the small representation of the medical profession in the House of Commons with that of the Bar and asks whether this may be the reason why legal appointments are so much better paid than medical ones. Whether the question of medical salaries can be brought within the scope of the Commission seems doubtful, but it is certainly a topic which should not be forgotten in the event of new legislation following upon the Commissioners' report should any Bill so proposed deal generally with Poor-law administration. In such an event it is to be hoped that although numerically few the medical men who are now Members of Parliament will make their voices heard and their influence felt on behalf of a hard-working and ill-paid section of their profession—men who for the very reason that they are hard-worked and ill paid can exert but little influence in their own cause. It is rather difficult to draw comparisons between the emoluments of legal appointments and those open to medical practitioners, for the former if well paid, as no doubt they are, are much less numerous than the latter and are nearly always subject to conditions, such as the lapse of a given number of years since the date of call to the bar, which do not obtain in the case of appointments which can be held by any legally qualified medical practitioner. There may, however, be some truth in our correspondent's explanation of the present unsatisfactory scale of payment deemed sufficient for the medical man, whose education before registration is far more elaborate and far better qualified to fit him for the practice of his profession than that portion of the barrister's training which precedes his call. The number of barristers in the present House of Commons exceeds 100 and the sister profession of solicitors brings the tale to be included under the general heading of lawyers nearly up to 150. Many of these, like a substantial proportion of the members representing medicine, either do not pursue their profession at all or have not risen to eminence in it, but a large number of them are in active practice upon which they are dependent for their livelihood. In these circumstances it is likely that a proposal to reduce by one-half the fees of the revising barristers to whom our correspondent refers would meet with lively opposition and with the forceful argument of a considerable number of adverse votes If, however, the medical members of the House of Commons are outnumbered by the legal ones it is possible to suggest that among the working members of another learned profession they should find sympathy and support in all reasonable demands. Lawyers and medical men are drawn to a great extent from the same class; they are educated largely at the same public schools and the same universities confer degrees upon them after they have spent their days and followed their recreations as undergraduates together. It is the lawyer therefore, perhaps, more than the country gentleman, the ex-soldier, or the politician pure and simple, who should grasp the fact that what the medical man desires is neither wealth nor luxury, but simply the maintenance of conditions incidental to his birth and training and due to the dignity of his profession. He has been born a member of a class which, whether it can afford it readily or not, bestows upon its sons the education of gentlemen and that education he has pursued at considerable cost for an extended period owing to his determination to earn his living by practising medicine. The least that he is entitled to is such a pecuniary reward for his labours as will permit him to remain in the social plane in which he has been born and in which the associates of his early lifetime, also members of learned professions, are able to keep themselves and to bring up his family so that his sons and his daughters may fill stations not inferior to that occupied by their parents. In the near future, however, the attitude of those responsible for the government of the country, so far as it is guided by Parliament, will depend no doubt to an appreciable extent upon the chosen representatives of democracy as well as upon those whose birth and education may prompt them to sympathise with the needs of medical men. The democratic element in the House of Commons is a force to be reckoned with and upon some points—as, for instance, upon the question of vaccination—it is not likely to range itself definitely and unitedly on the side of progress. Where, however, it has to deal with such a question as that of the remuneration of Poor-law medical officers it may be expected to consider the arguments laid before it from the point of view of the patient, and not to turn a deaf ear to those who point out that better pay attracts better men or that the allowance of fitting fees for the operation or for the anæsthetic rendered possible by modern medical science contributes to lessen the suffering of the poor in need of surgical aid. The "labour member," at all events, will not accept the suggestion that anything is good enough for him who attends upon the worker and his family when they are unable to support themselves, and both the sections of the legislature referred to may be of opinion also that the best position for the Poor-law medical officer to occupy in the interests of his patients may be that in which he is comparatively independent of the prejudices and caprices of the classes from which, in many instances, boards of guardians are almost inevitably drawn. We need hardly add that if the position of the Poor-law medical officer is to be considered any projected amelioration should be accorded in equal degree to those serving in England, in Scotland, and in Ireland.

[1] THE LANCET, Feb. 3rd, p. 347.

INFECTIOUS ILLNESS IN A SWISS HOTEL.

WE read in a newspaper published at Montreux a curious story of a case of illness at a Swiss hotel, followed by a lawsuit, which is printed in our contemporary as a case of interest to inn-keepers and to their clients. We can only give the facts as narrated and read "between the lines." One of the younger members of a family from Geneva was taken ill at the hotel in question and two English medical men who were also staying there diagnosed her case as one of

scarlet fever. It will be remembered that Englishmen may not practise medicine in Switzerland unless they hold Swiss diplomas, and presumably on this account a native practitioner was called in but he did not consider the illness to be scarlet fever, and under his treatment the young lady recovered so far that at the end of a week she was removed to another place. Meanwhile, her illness, and, no doubt, the opinion held with regard to it by the English medical men, had caused alarm among the visitors to the hotel and it is not unlikely that the innkeeper had, as he alleged, been injuriously affected thereby. His action, however, was brought not against the foreign medical men who, had their diagnosis been proved to be incorrect, might reasonably have been considered to be responsible, but against the parents of the young lady, from whom he claimed damages and expenses on account of the illness of their daughter in the hotel. The court at Geneva rejected his claim entirely and found for the defendants and an appeal lodged since by the unsuccessful plaintiff has also been dismissed. We have no doubt that the Swiss courts arrived at a thoroughly just and proper decision as between the innkeeper and his guests. From the point of view of the travelling public the story of the diagnosis of two English medical men over-ruled and disregarded in the manner described is a little disquieting, and we would point out to those responsible for the restrictions upon medical practice in Switzerland that the confidence of the vast number of foreigners who frequent and support Swiss hotels would best be maintained by the removal of these narrow and inhospitable regulations. The Swiss themselves might reasonably be expected to prefer the attendance of their own countrymen and would no doubt continue to do so.

"FRAUDULENT FOAM."

A CORRESPONDENT writes with reference to an annotation on this subject last week:—An article on the saponins by Dr. Bourset and Dr. Chevalier, which appeared in the *Bulletin des Sciences Pharmacologiques* (1905, No. 5, pp. 262-70), bears directly on the employment of saponin for producing foam in beverages, which was referred to in THE LANCET of Feb. 3rd, p. 312. The authors of the paper call attention to the varieties of saponin; their mode of extraction and purification, the method of determining their strength, and their reactions, uses, and physiological properties. As regards the varieties of saponin, no less than 150 glucosides having the properties of saponin were enumerated by Nicolai Kruskal in 1891. Kobert discovered that the saponins can be divided into two classes—viz., acid saponins, which are scarcely toxic, and neutral saponins, or sapotoxins, which are very toxic; the saponin of commerce is usually a mixture of these. Their separation is readily effected by ammonium sulphate which precipitates the acid saponins from an aqueous solution without affecting the sapotoxins. Dr. Bourset and Dr. Chevalier call attention to the enormous demand in brewing for saponin, obtained from species of *Gypsophila*. In Austria the practice of adding saponin to beverages became so prevalent that a law was passed to prevent it. In pharmacy tincture of quillaya is used to emulsify oils—e.g., turpentine and castor oil. The sternutatory action of saponin has led some traders to prepare a substitute for snuff by mixing powdered quillaya bark with various vegetable powders. With regard to the physiological properties of saponin it loses the greater part of its strength during the drying of the plants from which it is obtained and during the process of extraction. This accounts for the fact that sarsaparilla, as found in this country, is often inert, while in Mexico, the habitat of the drug, it is considered extremely active. When injected into the blood saponin is fatal in doses of from 0·0002 to 0·0005 gramme per kilogramme, producing paralysis of the central nervous system and failure of the cardiac and respiratory actions; gastro-intestinal inflammation is also induced, ending nearly always in perforation. The saponins are less toxic when administered per os, but they cause catarrh of the mucous membrane, swelling and irritation in the nose, mouth, and throat, and coughing. It is for this reason that saponins have been employed as emetics and expectorants. The saponins also stimulate the secretions and especially promote diuresis, owing partly to their irritating action and partly to their effect on the circulation. It is evident from the researches of Kobert and others that saponin, as met with in commerce, is liable to vary in constitution and in toxicity. For pharmaceutical use as an emulsifying agent it is therefore quite unsuitable. A consideration of the subject suggests that the variation in strength of squill and other drugs containing saponins may be due to changes in those constituents, depending partly on the age of the drugs and partly on the mode of extraction employed in making the corresponding galenical preparations.

FOREIGN BODY IN THE SUBMAXILLARY DUCT

IN the *New Zealand Medical Journal* for October and November Mr. T. Copeland Savage has published two very interesting cases of bodies in the submaxillary duct which gave rise to errors of diagnosis. He describes them as cases of "foreign bodies in the submaxillary duct." But the first was an example of salivary calculus to which the term "foreign body" seems scarcely applicable. A woman, aged 24 years, was taken to him for otorrhœa and a tender swelling beneath the left ramus of the jaw. The membrana tympani and the malleus had disappeared. The stapes and incus were carious and the mastoid was very tender. Beneath the left ramus of the jaw, extending back as far as the angle, was an oval swelling, rather hard, indefinitely lobulated, and tender. It had been diagnosed as tuberculous glands secondary to the ear disease. In palpating the swelling through the mouth a hardness was felt near the left submaxillary papilla. On being asked whether the swelling ever varied in size the patient said that it did when she ate. The floor of the mouth was swabbed with cocaine and the submaxillary duct was incised over the swelling with a cataract knife until the orifice was reached. A salivary calculus escaped. The swelling disappeared in two or three weeks. In the second case a woman, aged 25 years, sought advice on August 15th, 1905, for a discharging sinus above the hyoid bone and half an inch to the right of the middle line, and a swelling beneath the right ramus of the jaw. The history was that nine months before she noticed a swelling beneath the right half of the chin. It gave little trouble until April, when it became very large and red. In May it was lanced and much pus escaped, but the incision never closed. Twice within the last three months the swelling was lanced from inside the mouth. The swelling beneath the jaw was firm and but slightly tender; the skin was not adherent. On probing the sinus a hard substance was felt at the depth of one and a half inches. The patient was edentulous and in the floor of the mouth was a hard, irregular swelling along the course of the submaxillary duct. Near the posterior part of the swelling, opposite the position which had been occupied by the first molar tooth, was a sinus from which on pressing the floor of the mouth clear viscid secretion and some saliva escaped. A probe passed downwards and backwards struck the hard substance mentioned above and passed forwards and appeared to enter the submaxillary duct, but it could not be passed in this direction more than half an inch. Mr. Savage diagnosed submaxillary calculus and advised removal by enlarging the external sinus on account of the dangerous proximity of the lingual nerve. Under chloroform he removed with considerable difficulty a

wisdom tooth from the posterior part of the submaxillary gland and duct. The fangs were broken and there was a small cavity in the crown. The external wound closed in eight days but as the fistula in the mouth closed a ranula developed. This was opened under cocaine and a silver wire was passed into the incision through a stricture in the duct and out through the salivary papilla. This was kept in for a few days and then the fistula was allowed to close. The patient had no trouble subsequently and the duct acted normally. On being questioned she stated that she had had teeth extracted four years before the operation and had some recollection of hearing the dentist say, "She must have swallowed it." Three months later there was an abscess on the inner angle of the jaw which was opened through the mouth. The operation was repeated twice in the next year and then she was free from trouble for nearly two and a half years. The first case is interesting as showing that in the presence of otorrhœa a calculus of the submaxillary gland may easily be mistaken for an enlarged gland. The second case is exceedingly rare and shows the desirability of probing all sinuses in case of non-closure.

STREET NOISES AND MOTOR OMNIBUSES.

THE persistent complaints of the press as to the amount of totally unnecessary noises which afflict the dwellers in large towns have apparently had some effect. Various municipalities have made by-laws as to the yelling of newspaper vendors and certainly some improvement has taken place with respect to this particular nuisance. But with the advent of the newest means of locomotion a fresh terror has arisen—namely, the irritating noise caused by motor omnibuses. Whether owing to worn gearing or to the mechanism of the breaks, or, as is most likely, to both, the motor omnibus is capable of producing more abominable noises than any other vehicle with which we are acquainted. Everyone must have noticed the harsh grinding "scroop" of a motor omnibus and it must be due, we suppose, to defective mechanism. We are glad, therefore, to see that Mr. E. R. Henry, the Commissioner of Police for the metropolis, has issued a notice to proprietors of motor omnibuses dealing with the conditions necessary n order to obtain a certificate of fitness. Among other conditions laid down it is enacted that the machinery must be so constructed that no undue noise or vibration is caused and that some effectual means must be provided to prevent the rattling of window frames or glass. There are plenty of petrol-driven motor-cars on the streets which make practically no noise and if noise can be prevented in one class of car it is most probable that there is no reason, except expense, why it should not be prevented in all classes. As a matter of fact, the newer class of motor omnibuses make much less noise than those which have been plying for hire for some time. This, of course, may be due to the fact that the machinery of the former is new but we hope that it is due to improvement in the mechanism. At all events, if noisy machinery causes a difficulty to be experienced in obtaining a licence the proprietors of motor omnibuses will soon find a way of remedying the nuisance.

WHAT IS WHISKY?

THE ultimate decision of this question seems to be as far off as ever as regards, at any rate, any definite pronouncement being forthcoming in the proceedings at the North London police court. On Monday last the witnesses who were called for the defence again represented chiefly the distillery trade. At the commencement of the proceedings, however, the evidence of "a retired revenue officer" was taken. He said that he joined the service in 1862 and during his career he had examined, with two exceptions, all the patent stills in the United Kingdom and also a large number of pot-stills. Patent-still whisky had been known simply as whisky for a long number of years and when made or blended in Scotland he thought it was correct to call the spirit Scotch whisky. Asked whether there would be any difficulty about describing the composition of a whisky on the label of the bottle he thought that it would be impracticable, and even if that plan were adopted the public would be no wiser. Mr. F. J. Stevens, the managing director of a firm of Scotch distillers, said that he considered that a blender would be quite justified in describing a mixture containing 2 per cent. of pot-still whisky with the remainder of patent-still spirit as "a blend of malt and grain whisky" but he had never done so. Mr. John MacDonald, representing another firm of distillers, said that they had produced pot-still whisky alone but during the last 20 years a great change had come over the public taste. The demand for all-malt whisky had declined to such an extent that probably 90 per cent. of the whisky sold was blended. In the course of further evidence it was elicited that the sample under question consisted of 90 per cent. of patent spirit one month old and 10 per cent. of pot-still spirit three years old. The hearing was again adjourned.

THE PSYCHOSES OF PEASANTS.

A PAPER of some interest is published in *Le Progrès Médical* of Jan. 20th by Dr. Terrien in which he compares the frequency and the character of the "psycho-neuroses" affecting the dwellers in rural districts with those of urban populations. Contrary to what might have been expected from the healthier conditions of life and the less exacting struggle for existence among the prosperous peasantry he finds that hysteria and neurasthenia are if anything more prevalent among them than among town dwellers. He has spent 12 years among the peasantry of La Vendée and then subsequently four years in an urban district, so that his conclusions are the result of personal observation of the two classes. He states that hysteria and neurasthenia are extremely frequent among the peasants and brings forward certain explanations to account for this prevalence. In the first place he points out that large numbers of the peasants drink as much as five or six litres of the wine produced in their own district and that drunkenness is very common, although chronic alcoholism and spirit-drinking are rarely met with. Dr. Terrien suggests that one effect of this is to produce a taint of degeneracy in the offspring, with an associated instability of the nervous system. He further believes that the superstitions which are so deeply rooted in the minds of the peasantry from their earliest childhood are also a factor in the production of these psychopathies and may contribute to the genesis of actual delusions. Another contributing cause is probably also the frequency of marriages of consanguinity among the peasantry. Dr. Terrien also believes that the personal hygiene of the dwellers in rural districts is rudimentary and that as a consequence they are more liable to infections and auto-intoxications which he believes can play a part in the development of such mental changes. Lastly, he suspects that the life of the peasant is no longer so idyllic as in former times and free from the worries and stress of competition but that the struggle for existence is becoming keener. On studying the manifestations of hysteria in the rural population Dr. Terrien finds that imitation plays a more direct part in the genesis of hysterical manifestations than is the case among dwellers in towns and he quotes various instances in support of his contention, notably in one village, where six young girls developed "hysterical hip" after seeing a genuine case of hip disease. On the other hand, hysterical fits or convulsive attacks are extremely rare. A further point is that the hysterical patient in the country

is more amenable to treatment, especially treatment by suggestion, than those in towns. The neurasthenia of peasant life, however, differs little if at all from that of urban life, except that the peasant less often complains of mental disability and more often of physical manifestations, such as weakness, pain in the back, and dyspepsia. Dr. Terrien's observations and his conclusions are both worthy of careful consideration and afford matter for careful statistical investigation. Even admitting the accuracy of his statement that such conditions as hysteria and neurasthenia are on the increase among the peasants, it may be doubted whether his explanations entirely account for it, since the drinking of wine in excessive quantities, the belief in superstitions, and the intermarriage of relatives are presumably factors which have long been in operation and are not necessarily on the increase; indeed, intermarriage and belief in superstitions might be expected to be on the decrease owing to the better education and the easier means of communication now existing.

SEPTICÆMIA DUE TO THE SPIROCHÆTA PALLIDA IN A SYPHILITIC NEWLY BORN CHILD.

THE recent discovery of the spirochæta pallida in the lesions and in the blood of patients suffering from syphilis is a most important advance, though it cannot yet be said whether this organism is the cause of the disease. At the meeting of the Société Médicale des Hôpitaux of Paris on Dec. 29th, 1905, M. P. Menetrier and M. Rubens-Duval reported the following case in which the finding of this organism in the blood threw much light upon the cause of death which otherwise would have been difficult to explain. A male infant born at term presented as the only signs of congenital syphilis three or four bullæ on the sole of each foot. Otherwise he appeared to be quite normal. The placenta showed nothing on macroscopic examination. Death occurred 12 hours after birth. At the necropsy the only organ which attracted attention was the liver, which was greatly enlarged, congested, and of a violaceous red colour. The other organs showed only congestion, but in none was this so great as in the liver. Microscopic examination of the bullæ on the soles showed that these lesions were due to cleavage of the horny layer of the epidermis and contained a large number of desquamated cells, among which were a large number of spirochætæ pallidæ. They were also present in less numbers in the Malpighian layer of the skin and in the papillary layer and in the blood-vessels of the dermis. In the latter some were seen in the lumen of the vessels in the midst of red corpuscles, others were in contact with the vascular endothelium, and still others were traversing the walls and passing out of the vessels. Thus the formation of the bullæ was explained: the spirilla were brought to the skin by the blood; they traversed the vessels and then the epidermis. In the latter, no doubt, encountering conditions favourable to their development, they proliferated abundantly. Of the viscera examined the spirochætæ were found in greatest number in the suprarenal capsules, where they were most numerous in the vessels, the walls of which they were also traversing. The only other change observed in the suprarenal glands was considerable congestion of the capsules. Similar conditions were found in the liver and the spleen. Thus the infection had been generalised by the blood, a veritable septicæmia being produced and the tissues infected, but the only lesions produced were the bullæ on the soles. In the placenta, which was placed in hardening fluid immediately after delivery, the spirochætæ were found only in the vessels, where they were less numerous than in the tissues of the infant. This might be accounted for by the fact that the latter had lived 12 hours longer than the former. Another interesting fact was that in the placenta the spirochætæ were found only in the chorionic villi, being thus confined to the fœtal blood. The importance of the finding of the spirochætæ in this case is great. It showed the cause of death—syphilis in a form which has not previously been recognised, a subacute infection of the blood similar to that of anthrax.

VAGRANCY AND ITS CURE.

A RETURN of vagrants in the northern counties has recently been published which gives some interesting information on a subject which has always been a matter of concern not only to the guardians but to the public health authorities, for in the last outbreak of small-pox in the North the spread of the disease was frequently traced to the nomadic population of our counties, and this was also the case in a less well-known outbreak of typhus fever which occurred some few years ago in the Hexham union. The return in question deals with the first seven weeks of the December quarter of 1905 and comparison is made with the corresponding period of 1904. In the county of Durham there was a net decrease of 528 vagrant persons, while in Northumberland there was a decrease of 107. Of course, this decrease is not equal in all the unions and in many of the larger ones there has been an increase. In the remarks made by the various workhouse masters concerned this increase is usually explained by the excess of unemployed but some light is thrown on the matter by the workhouse master of Berwick-upon-Tweed, who attributes the decrease in his union to "the supposition that the effect of the Unemployed Workmen Act and Queen Alexandra Fund is to attract the casuals to the large centres to share in the benefits derivable from the Act and Fund in question." The most remarkable feature of the report is the great decrease in South Shields, from 763 in 1904 to 402 in 1905. The authorities seem satisfied that this pleasing result is due to the introduction of a number of work cubicles which act as a powerful deterrent as well as providing a class of employment which is remunerative and decidedly better than stone-breaking. The task imposed consists of pounding a certain quantity of stone practically to powder, which is done in a metal mortar simply by the continuous lifting of a beater. The product is useful for repairing purposes, concrete making, and so on; what is not required in the house can be sold at a reasonable price. The cells are plain brickwork and are built by the inmates; the mortars cost about £3 each.

ADULTERATED DRESS FABRICS.

OUR indictment of a certain section of the manufacturing trade and of the drapers and hosiers, published in THE LANCET of Jan. 6th, p. 49, has drawn a leading article from the *Drapers' Record* in which our conclusions are largely confirmed. Our contemporary says that it is heartily against fraudulent adulteration and supports the movement for calling things by their right names. It admits that a very large number or articles commonly spoken of as "woollen" and "linen" are made of materials of which the substances indicated form only a small part. An endeavour is made, however, to defend the drapery trade in its attempt to justify the application of such words as "linen" to goods which contain cotton on the grounds that when we use the terms "table linen" and "bed linen" in common parlance we include all materials used for that purpose whether made of linen or cotton. We should like to be informed by the drapery trade why mixtures are always called by the name of the superior material? Why is "spun silk," which may be more than 50 per cent. cotton, not called "spun cotton"? With regard to imitation fabrics

our contemporary says that customers know quite well what they are buying but careful inquiry has shown us that this is not true in nine cases out of ten. As regards the poisonous properties of many adulterated fabrics our contemporary says that if this were the case we should hear of many legal actions for damages caused by them. We do not consider that this follows at all; under modern conditions many people suffer from a chronic state of ill-health and minor ailments which, if we could trace them back to their causes, might be found to be the results of adulterated foods and sophisticated wearing apparel. Altogether we think that the *Drapers' Record* makes a very poor defence.

LIFE TABLE FOR THE CITY OF NORWICH.

Dr. H. Cooper Pattin, the medical officer of health of Norwich, has favoured us with a copy of his new life table based on material furnished by the population of that city in the decennium 1891–1900. In a preface to the life table, which has been published by the Norwich health committee, Dr. Pattin assigns the entire credit for its production to his late assistant and deputy, Dr. Arthur W. Tuxford, who has devoted to the task "arduous and ungrudging labour." The method of construction of this life table is fully set forth in the introduction; but as it is avowedly modelled on the plan of the second life table of Dr. A. Newsholme and Dr. T. H. Stevenson of Brighton it is unnecessary to describe it in detail here.[1] Dr. Tuxford specifies the following as among the chief uses of a life table. First, as a means of determining, by the laws of probability, the expectation of life in a given community on the assumption that "environment" remains constant. Secondly, as a measure of the sanitary progress of a district. For example, if two or more districts possess life tables for the same period, a comparison of the figures will supply a criterion of the relative healthiness of these districts. And further, as shown by Dr. T. E. Hayward, the medical officer of health of Haydock, life tables may be used to show what would be the effect on the longevity of a population of the elimination of pulmonary tuberculosis, for example, among the more definitely preventable of the causes of death. In his analysis of the results of his Norwich table Dr. Tuxford compares them with Dr. Hayward's latest English life table as well as with Sir Shirley F. Murphy's London life table and with the second life table for Brighton before referred to. From this comparison we learn that, for *males*, the probability of living through the first year is less in Norwich than elsewhere; as compared with London it is less by 3 per cent. During the second year the probability improves relatively and in the third year it is the highest among the tables compared. The relative values fluctuate between the ages of three and 25 years, after which latter year Norwich leads up to the age of 64 years, when the Brighton values become the highest. The figures for London and for England do not exceed those for Norwich until the eightieth year of life, after which the Norwich figures are the worst. For *females* the results of comparison are similar to those for males. The probability of living through the first year is worst in Norwich but the deficiency as compared with London is only about half that for males. The probability of living through the second and third years is greatest in Norwich. Up to the age of 79 years the Norwich probability values are better than those of the country generally; between 29 and 60 years they are better than in London. They vary compared with Brighton, the only lengthy excess of Norwich figures being in the fifth and sixth decades. In his prefatory remarks Dr. Pattin expresses regret that so few of the great towns have hitherto issued life tables. For ourselves, however, when we contemplate the serious amount of labour required to produce an extended life table on the lines of those already published, we are doubtful whether the medical officer of health of a large town possesses the necessary leisure, due regard being had to the execution of his other and perhaps more important duties. It deserves to be borne in mind that the great towns of England are by no means in all cases so fortunate in possessing an assistant health officer as is the city of Norwich, and until such appointments become general we fear that Dr. Pattin's regret will have to remain an academic one. There is, however, an alternative method, which has been devised by Dr. Hayward, of constructing shortened life tables for public health purposes, by which the labour of construction is enormously reduced and the mathematical equipment required is limited to ordinary algebraical processes, including a good working acquaintance with the use of logarithms. Whilst, therefore, in principle we incline to Dr. Pattin's view that the use of life tables for public health purposes deserves encouragement we are convinced that this desideratum is most likely to be secured by the diffusion of knowledge concerning the least laborious methods of life-table construction on the lines so well set forth by Dr. Hayward in his essay on the construction of shortened life tables for public health purposes to which we have referred and which will be found in Vol. V of the *Journal of Hygiene* for January, 1905.

[1] Journal of Hygiene, vol. iii., part 3.

THE PLEA OF "NO BOOTS."

MANY and often curious are the excuses offered by parents summoned before the attendance committees of managers of elementary public schools in poorer districts for allowing their children to absent themselves from school or to be irregular in attendance. One of the most constantly occurring explanations volunteered, especially at this season of the year, is that the children have no boots, or, at least, have very bad boots Occasionally this statement is found to be a mere prevarication, reflecting upon the known slackness in the *régime* of the local attendance authority, for the parents have in fact detained the child for home services; especially is this the case when the scholar approaches the age when school attendance will be no longer compulsory. Too often, however, the facts alleged are true. The father may have been long out of work and unable to repair or to renew the boots of his family; indeed, it is not unknown that boots provided for the children out of charitable funds have been immediately pawned in order to meet the dire necessities of the house. Upon the defaulting parents being informed that absence of boots does not excuse absence from school, various arguments are put forward A popular and not unworthy defence is that to send a child to school barefooted would disgrace the child as well as offend the social standard of the neighbourhood; it would look very bad. Driven from this line of defence by being told that many children do attend school without boots, especially those coming from "Irish quarters," the parents raise the specious objection that the child's health would be endangered, he would catch cold, develop chilblains, or cut his feet to pieces. In reply it is urged that these children stay from school whether the weather be wet or dry, that they have no diffidence in playing about the streets, and that their infant brothers and sisters in midwinter are sent to the "babies' class" with their chubby little arms bare. Further, from the health standpoint it is far preferable in wet weather to have no boots than to be so ill-shod that the child has to sit with wet, cold boots. Teachers should indeed be instructed to have such soppy, wet leather coverings of the feet removed as soon as the child enters the school. There is little chance then of harm resulting, for in the warm classroom the legs and feet will

soon dry and regain their natural heat. In the case of the very poor who look for relief from the parochial guardians, while they are being aided it is made a *sine quâ non* that their children shall not be irregular in their school attendance.

THE DANGER OF USING SCOPOLAMINE AS AN ANÆSTHETIC.

THE employment of scopolamine as an anæsthetic, to which reference was made in THE LANCET of Dec. 30th, 1905, p. 1922, is losing favour in France. At a meeting of the Société de Thérapeutique of Paris[1] M. Bardet drew attention to cases in which the injection of one milligramme (0·016 grain) of scopolamine and one centigramme (0·16 grain) of morphine has provoked grave symptoms of poisoning and even death. He considers that the initial dose of scopolamine should not exceed one-tenth or two-tenths of a milligramme. In subjects who do not readily tolerate alkaloids owing to the lowering of the antitoxic function of the liver special care should be taken in administering scopolamine and morphine. It was pointed out that Pouchet and Lewin gave the toxic dose of scopolamine as one milligramme. A further disadvantage in the employment of scopolamine consists in the fact that, as found in commerce, it is not always identically the same in constitution; the toxicity of different samples of scopolamine may therefore be expected to vary.

PROPOSED MEMORIAL TO THE LATE PROFESSOR VON MIKULICZ-RADECKI.

THE following gentlemen form an international committee having for its object the raising of a monument to the late professor of surgery at Breslau:—Bernhard Erbprinz von Sachsen-Meiningen, Herzog von Sachsen; Oberbürgermeister Dr. Bender; Wirkl. Geh. Rat. Dr. E. von Bergmann, Berlin; Staats- und Justizminister Beseler, Berlin; Polizeipräsident Dr. Bienko; Dr. O. Borchgrevink, Christiania; Mr. F. M. Caird, Edinburgh; Hofrat Professor Dr. Carl Chun, Leipzig; Geh. Justizrat Professor Dr. Felix Dahn; Generalarzt Dr. Demuth; Professor Dr. Depage, Brussels; Dr. G. Dohrn, Dir. des Orchester Vereins; Professor Dr. F. Durante, Rome; Konsul Theod. Ehrlich; Hofrat Professor Dr. Freiherr von Eiselsberg, Vienna; Geh. Regierungsrat Professor Dr. Foerster, Vorsitzender der Schles. Gesellschaft für Vaterländische Kultur; Geh. Justizrat Dr. Freund; Geh. Medizinalrat Professor Dr. C. Garrè; Professor Halsted, Baltimore; Oberkonsistorialrat Professor Dr. von Hase; Dr. Fürst von Hatzfeldt, Herzog zu Trachenberg; Dr. Jur. G. Heimann; Regierungs-Präsident Wirk. Geh. Oberregierungsrat von Holwede; Professor Dr. Kader, Krakau; Dr. F. Kammerer, New York; Professor Dr. G. Kaufmann, z. Z. Rektor der Königlichen Universität; Professor W. W. Keen, Philadelphia; Professor T. Kocher, Berne; Domprobst Professor Dr. Koenig; Geh. Sanitätsrat Professor W. Körte, Berlin; Sanitätsrat Dr. T. Körner; G. Kardinal Kopp, Fürstbischof von Breslau; Stadtälteste Heinrich von Korn; Geh. Medizinalrat Professor Dr. Küstner, Dekan der Medizinischen Facultät; Geh. Regierungsrat Professor Dr. Ladenburg; Professor Dr. Lejars, Paris; Professor Dr. K. Lennander, Upsala; Geh. Justizrat Professor Dr. Leonhard; Wirk. Geh. Rat. Graf zu Limburg-Stirum; Mr. G. H. Makins, London; Professor P. Meyerheim, Berlin, Mitglied der Akademie der Künste; Gen. *à la suite* und Kommandant von Berlin, Graf Moltke; Professor J. B. Murphy, Chicago; Professor Dr. Naunyn, Strassburg; Geh. Medizinalrat Professor Dr. Neisser; Dr. A. Pinsker, Vienna; Hans Heinrich XV., Prinz von Pless; Geh. Medizinalrat Professor Dr. Ponfick; Herzog von Ratibor; Landeshauptmann Freiherr von Richthofen; Geh. Sanitätsrat Dr. Senftleben; Professor Dr. Sombart; Professor Dr. A. Tietze; Graf von Tschirschsky-Renard; Geh. Medizinalrat Professor Dr. Uhthoff; Professor Dr. A. von Winiwarter, Lüttich; Professor Dr. Woelfler, Prague; Gen. der Infanterie und Kommandierender General der VI. Armeekorps von Woyrsch; Oberpräsident und Universitäts Kurator Staatsminister Graf von Zedlitz-Trützschler. Probably many of the late Professor von Mikulicz's admirers and members of the profession who visited his clinic at Breslau may wish to take part in this movement. Subscriptions in aid of the necessary fund may be sent to Mr. G. H. Makins at 47, Charles-street, Berkeley-square, London, W.

[1] Journal de Pharmacie et de Chimie, 1905, No. 10, p. 476.

ON Feb. 1st, at the École de Psychologie, Rue St. André-des-Arts, Paris, a bust of Dr. Liébeault, the pioneer of hypnotic therapeutics in the city of Nancy, was unveiled before a distinguished company. M. Bienvenu-Martin, Minister of Public Instruction, who was accompanied by M. Berthelot, presided and addresses were given by Dr. J. Voisin, Dr. Bérillon, Dr. Maul Magnin, Dr. C. Lloyd Tuckey, and Dr. Raymond. A poem in honour of Dr. Liébeault, by M. Jules Bois, was afterwards recited by M. Paul Mounet of the Comédie Française. The proceedings terminated with a banquet in honour of the foreign guests at the Marquery Restaurant.

IN his reports presented to the sanitary committee of the City of London for the period from Nov. 18th, 1905, to Jan. 23rd, 1906, Dr. William Collingridge, the medical officer of health, mentions that in November last a medical man notified an illness affecting a beer-drinker as being probably connected with arsenical poisoning. Samples of the description of beer drunk by the patient were accordingly obtained from three public-houses which he patronised and all of them were found to contain minute traces of arsenic not exceeding $\frac{1}{10}$th of a grain per gallon. This small quantity of arsenic is not likely to be injurious, except possibly in the case of very susceptible persons.

THE medical officer of health of the Cape Colony reports that for the week ending Jan. 13th the condition of the Colony as regards plague was as follows. No case of plague in man or other animal was discovered throughout the colony except at Port Elizabeth where two rats and one mouse were found to be infected with plague. As regards the Mauritius a telegram from the Governor received at the Colonial Office on Feb. 2nd states that for the week ending Feb. 1st there were 2 cases of plague and 1 death from the disease.

A GENERAL meeting of the Medical Officers of Schools' Association will be held at 11, Chandos-street, Cavendish-square, London, W., on Thursday next, Feb. 15th, at 3.45 P.M., when a discussion on Physical Education in Schools will be introduced by Dr. W. P. Herringham and Mr. T. C. Horsfall.

THE Princess Royal has consented to lay the foundation stone of the new wing now being built at the Bolingbroke Hospital, Wandsworth Common.

A visit to London has been arranged for the famous Paris Municipal Guards Band, this being the third occasion on which the band has played in London. A series of promenade concerts have been fixed to commence on Saturday evening, Feb. 17th, at the Opera House, Covent Garden. The net proceeds of the performances will be devoted to the Queen's Fund for the Unemployed, the French charities in London, and the Hilda Disaster Fund.

THIRTEENTH ANNUAL REPORT (FOR 1904) OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

I.

WE now resume consideration of Sir Shirley F. Murphy's report, dealing particularly with those portions of it which for lack of space we were precluded from noticing in our leading article of Jan. 20th, p. 171.

A cursory review of the series of public health reports, whereof the present is the thirteenth, reveals the fact that whereas the earlier numbers were principally concerned with recording the loss of life caused by the various epidemic maladies which, in the absence of recent methods of control, were at that time more or less rife in the poorer parts of London, the present number, on the other hand, whilst still preserving a continuous record of the occurrence of these maladies, treats as of at least equal importance from a preventive standpoint the question of the prevalence of such chronic diseases as tuberculosis and cancer, diseases which in the early days of sanitation were considered hardly amenable to sanitary control but which are still in the aggregate responsible for an excessive proportion of our annual mortality. The London County Council could hardly desire a more complete justification of its preventive achievements than the circumstance prominently apparent in the present report, that with respect to every one of the diseases hitherto brought under notification influence a substantial decrease of fatality, and inferentially of prevalence, has taken place since the issue of Sir Shirley Murphy's first annual report. As a typical instance of life saving accomplished by skilled municipal vigilance the case of typhus fever may be cited—a disease which in earlier years was wont to destroy large numbers of the poorer classes of the community and to entail untold misery and destitution on the survivors. With regard to this pestilence the county medical officer is able to affirm that in the year 1904 not a single death was caused by it in the administrative county of London.

In order to reserve space for consideration of what appear to be the most important topics in this report it is necessary to pass lightly over the record of diseases that are not at present notifiable during life, and we do so the more readily inasmuch as the Registrar-General has already dealt fully in his annual summary with London mortality from such diseases as measles, whooping-cough, and diarrhœa. The abnormally low rate of marriage and of birth and the still favourable general death-rate are matters that have also been sufficiently discussed in the publication referred to.

With respect to small-pox, Sir Shirley Murphy reports that in London this disease has assumed a mild type but has, nevertheless, maintained some degree of prevalence during the year 1904, especially in the eastern, central, and southern districts. Throughout the previous year fresh cases of small-pox had been notified week after week, 22 attacks having occurred in the closing week of that year. In 1904, however, the attacks were few and scattered until towards the end of February; but in March they increased somewhat suddenly, a man suffering from unrecognised small-pox having obtained admission to a Whitechapel common lodging-house and thus led to a local spread of the disease. It was mainly at the end of the first and the beginning of the second quarter of the year that small-pox threatened to become seriously prevalent in the metropolis, as many as 53 fresh attacks having been notified in a single week at the end of March. The common lodging-house populations of Poplar, Stepney, and Bethnal Green seem to have been concerned chiefly in spreading infection at this period and the report gives interesting details of the insidious manner in which wide-spread mischief was caused by a single unreported case of hæmorrhagic small-pox. At this stage of the outbreak the borough council of Bethnal Green made an order for the notification of chicken-pox within its jurisdiction, which order came into force at the end of March. Shortly after this the county council made a similar order, so that from the beginning of April until November chicken-pox became a notifiable disease throughout the metropolis. Moreover, the county council appointed Mr. S. Bingham and Mr. W. McC. Wanklyn as experts to visit at the request of medical practitioners any doubtful case of small-pox occurring in London. This well-timed and energetic action on the part, first of the Bethnal Green local authority and then of the London County Council, had the desired effect, for the report tells us that a diminution of the attacks reported in each week at once commenced and that in the subsequent months they became fewer and fewer, only one case being recorded in the whole county between Sept. 24th and Nov. 12th. The preventive measures adopted during the year, in addition to those already mentioned, included the speedy removal to hospital of infected persons, the keeping of "contacts" under observation, and their vaccination whenever practicable. Medical officers of health freely communicated with one another the occurrence of fresh foci of infection and promptly reported to the central authority at Spring-gardens the addresses of "contacts" still at large for the information of their colleagues in other parts of the metropolis. As in previous years, unrecognised cases of small-pox, mistaken for chicken-pox, played a large part in the dissemination of the disease. Sir Shirley Murphy speaks appreciatively of the assiduity with which the local medical officers of health sought for "contacts" and unrecognised cases of small-pox in their several districts, expressing the opinion that the thoroughness with which this was done was largely instrumental in controlling the spread of the disease.

Scarlet fever appears to have been somewhat more prevalent in 1904 than in the immediately preceding year, though, as compared with the decennial average, the notified cases, some 13,000 in number, were still considerably fewer. Commenting on the diminished prevalence of scarlet fever in recent years the county medical officer expresses the belief that this circumstance, albeit desirable in itself, has produced the untoward effect of obscuring, in particular instances, the source of infection. In various parts of London the spread of the disease has been traced directly or indirectly to school attendance, whilst in others infection seems to have been communicated from convalescents to the healthy in the streets or in school playgrounds. On July 21st the summer holidays of the London County Council schools began and the schools were reopened on August 22nd. In the text of the report the effect of holiday influence is contrasted with that of school influence, with the result obtained on previous occasions—namely, that the re-assembling of children in school after the vacation is attended with increased spread of infection. On the other hand, the opposite effect is produced by school closure and this effect is especially noticeable among children at ages from three to 13 years. In the familiar table giving the age and sex distribution of scarlet fever we note that although the *prevalence* of the disease is greatest from the third to the sixth year of life, nevertheless the *fatality* is by far the highest among children under the age of two years. In 1904, as in previous years, not only the rate of attack but the rate of mortality and the case fatality also were higher in male than in female children.

With respect to diphtheria, the increased prevalence of which disease a few years since had caused considerable anxiety in London, Sir Shirley Murphy is able to report a still further decline in 1904, the proportion of attacks to population being lower than in any year since 1900. As in previous years, he recounts in the present report particular instances of the spread of diphtheria from person to person by means of intermediary persons who, although capable of communicating infection to others, do not themselves present obvious symptoms of the disease. The annual report in the appendix of Dr. J. Kerr, the education medical officer, also contains account of the finding of "carrier cases" among children attending schools invaded by diphtheria, the exclusion of which children led to the termination of the outbreak. Very obvious is the need for careful search in cases like this for "carriers" among diphtheria "contacts" both in school and at home. As in previous reports, a table is here included showing the relation of school attendance to the spread of diphtheria; the lesson taught is the now familiar one that with every care on the part of the education authorities a marked increase in diphtheria prevalence invariably marks the reopening of schools and a corresponding decrease follows their closure for the holidays. According to the report a supply of antitoxin for the use of medical practitioners is provided gratuitously by the municipal authorities of certain parts of London but not by all. The

incidence of diphtheria attacks at all ages was, as in previous years, greater on females than on males. The incidence of deaths at all ages was the same on both sexes, while the case fatality was highest among males. Taking ages into account, the greatest incidence of attack was upon males of three and upon females of four years old; the greatest incidence of death in both sexes was upon infants of one year. The case fatality was highest among male infants *under one year* and among female infants of *one year of age*.

For several years past enteric fever has been steadily decreasing in the metropolis; in the year 1904 the reported cases were fewer in proportion to population than in any year since 1900. In the county generally the decline in the case-rate, death-rate, and case fatality has been maintained, but some London districts suffer practically twice as severely as others. Sir Shirley Murphy thinks that this may in part be due to differences in the food-supply, but that in all probability it is especially dependent on the habits of the people which induce the spread of infection from person to person. As has been observed in the case of pulmonary tubercul sis, the districts inhabited exclusively by the very poor suffer from enteric fever more heavily than do the districts inhabited by the well-to-do. Efforts to reduce this disease should, therefore, be directed to the discovery of persons suffering therefrom so slightly that, although infective to others, their own illness escapes recognition and notification. When regard is had to the long period during which the enteric fever bacillus persists in the urine of patients affected with that disease the frequency of this mode of infection can be appreciated. Not many years ago enteric fever was held to be non-infectious and cases of the disease were treated in general hospitals side by side with patients suffering from other diseases. In the present report, however, many instances are recorded of the spread of infection from one person to another. Thus in Bermondsey particulars are given of nine cases of the disease occurring in the same house, eight of which were directly infected by the first patient, the cause of whose illness was unknown. In Finsbury, Shoreditch, Wandsworth, Woolwich, St. Pancras, and elsewhere instances of this kind are recorded, in one of which no fewer than 14 attacks appeared to be due to infection from a single antecedent case. In several parts of London various articles of food have come under condemnation as carriers of enteric fever infection. Thus in a single year shell-fish was the suspected vehicle in nine cases in Finsbury, in eight cases in Bethnal Green, in 12 in Poplar, in 23 in Lambeth, in six in Battersea, in 11 in Wandsworth, and in 13 in Greenwich. In addition to oysters, cockles, and mussels among so-called shell-fish, other suspected articles of food were watercress, fried fish, and ice-cream.

As regards the incidence of enteric fever upon the several ages we learn from the report that although in proportion to population the attacks were most frequent in both sexes at ages between 10 and 15 years, the deaths occurred most frequently in men from 25 to 35 years of age and in women 10 years earlier. The case fatality, however, was highest among men from 35 to 45 years old and among women beyond their fifty-fifth year.

(To be continued.)

THE TURVEY TREATMENT, THE LEON SYNDICATE, AND THEIR CONNEXION.

WE have received from Mr. F. S. D. Hogg, the superintendent of the Dalrymple Home for Inebriates at Rickmansworth, the following letter which we publish with a full reply; for we think it our duty to our readers to give them the information, while the circumstances deserve to be brought to the attention of the General Medical Council:—

To the Editors of THE LANCET.

SIRS,—I have received in common with probably many members of the medical profession an invitation from a Mr. R. M. Pooley to subscribe to the Leon Syndicate. This syndicate has been denounced by at least one financial paper, but whether it be an honest financial venture or a ramp the conduct of a medical man in circularising the medical profession in behalf of such a scheme seems to me open to professional criticism. Please express an opinion on this point.

I am perhaps critical of the circular letter because I believe the R. M. Pooley who signs it to be the consulting medical officer to a quack treatment for drink called the Turvey treatment. The sanatorium in connexion with this treatment is the Eden Hall Sanatorium, Woodford, the resident medical officer being a "Dr. Pooley." It seems to me that a member of the medical profession has no business to keep a sanatorium where patients are treated upon a quack system and I should like your opinion upon this point also.

I am, Sirs, yours faithfully,

Rickmansworth. F. S. D. HOGG, L.R.C.P., &c.

We have received personally the letter puffing the Leon Syndicate, and we have also had copies sent to us by other medical men, but we will deal first with the question of the Turvey treatment for inebriety. In July, 1905, we received a letter from a correspondent informing us that the Eden Hall Sanatorium, Woodford, was being run in the interests of the proprietors of a quack treatment for inebriety. We made certain inquiries and as a result refused to insert the advertisements of the sanatorium until we had learned particulars of the therapeutic methods adopted. Whereupon there came a letter from the Eden Hall Sanatorium signed R. M. Pooley refusing the particulars but saying that we were "labouring under some delusion." An appointment was made for an interview and a gentleman giving the name of R. M. Pooley appeared at this office prepared, it seemed, to deny, as resident medical officer of the Eden Hall Sanatorium, any connexion with the Turvey treatment. To this gentleman there was shown a prospectus of the Eden Hall Sanatorium and a prospectus of the Turvey British and Foreign Institutes, Limited (a company formed for the purposes of acquiring proprietary rights in the Turvey treatment for inebriety), with the name upon each prospectus of a Dr. Pooley. It was pointed out to him that Mr. Stuart Robertson, the managing director of Eden Hall, was a director of the Turvey British and Foreign Institutes; that the Rev. James Stephen Barrass, rector of St. Lawrence Old (*sic*) Jewry, had the doubtful honour in each case of being called chaplain; that the assistant medical superintendent was in each case a Dr. Wright; that the London offices and consulting-rooms of Eden Hall were the offices of the Turvey British and Foreign Institutes, Amberley House, Norfolk-street, Strand; that one of the telegraphic addresses given for Eden Hall was "Turvert, London"; and lastly, that on the prospectus of the Turvey British and Foreign Institutes the name of Dr. Pooley was given as medical superintendent of the Institutes and as residing at Eden Hall, Woodford. In these circumstances our visitor was probably not surprised when we told him that we considered the connexion of Mr. R. M. Pooley, he being the Dr. Pooley of Eden Hall, with the Turvey treatment of inebriety to be established.

It has recently come to our attention that Mr. Pooley is suggesting that an old-time and unfortunate flirtation with the Turvey treatment has now been abandoned. Mr. Hogg sends us a letter dated Jan. 8th in which Mr. Guy Elliston, the Secretary of the British Medical Association, says that Mr. Pooley had assured the Ethical Committee of the Association that he was no longer connected with the Turvey treatment. Anxious to do justice to Mr. Pooley we caused inquiries to be made into the matter. On Tuesday, Jan. 23rd, we obtained from Amberley House a prospectus of the Turvey treatment, when we found that the sanatorium in connexion with that treatment was no longer advertised by name and that the medical superintendent also remained anonymous. Clearly Dr. Pooley of Eden Hall no longer desired to publish his association with the Turvey treatment. But a letter to Amberley House written two days later asking if the Turvey treatment could be pursued at a sanatorium brought to the writer a prospectus of Eden Hall Sanatorium, "resident medical superintendent, R. M. Pooley, M.R.C.P., &c.," and a letter signed J. Stuart Robertson, secretary of the Turvey Treatment Company, saying, "I enclose you prospectus of Eden Hall where the patient could undergo the Turvey treatment under the care of a medical man." Any doubt as to the identity of the medical man referred to was solved by a letter from Mr. Robertson four days later, saying, "I have seen Dr. Pooley with reference to the reception of your patient and he could arrange to receive him at once." In face of such letters as these there can be no doubt that Mr. Pooley is, and has all along been, connected with the Turvey treatment of inebriety, and we consider the connexion a highly discreditable one.

We have been requested by several correspondents, as well as Mr. Hogg, to state our opinion upon the professional

propriety lately exhibited by Mr. Pooley in issuing a circular invitation in behalf of the Leon Syndicate, Limited. The fault here is venial compared to the gross error of participating in the profits of a quack cure for inebriety, but it is grave enough. The concern in question is an exploration syndicate whose (to quote Mr. Pooley) "work will consist in forming companies and other business undertakings which the wide distribution of its one-shilling shares (a useful innovation), and the large working capital, place it in a strong position to do." We procured a prospectus of this company and find that the directors are stated to be Charles Gordon-Lennox Beale, 2, Norfolk-street, Strand, W.C.; Frank Chetwood Doyle, 3, Verulam-buildings, W.C., and Richard Charles Mason Pooley, M.R.C.P., &c., V.D., Monkhams, Woodford Green. We strongly recommend our readers to have nothing to do with the venture which, by the way, has already been unkindly criticised in at least one financial paper. Mr. Pooley claimed a sort of disinterested professional feeling in advocating the claims of the Leon Syndicate. "It is not often," he says in his circular letter, "that a medico can help his professional brethren to make money." It is not often, we think, that a medico has written such a circular letter in support of such a scheme, and those whom he terms his brethren may think as we do, that the letter and prospectus might be laid before the General Medical Council for decision as to whether Mr. Pooley's conduct is ethically correct—as to whether, in fact, Mr. Pooley ought to continue to have the right to address members of an honourable profession as his brethren. But apart from all professional questions, Mr. Pooley seems to us too elusive in his address and style to be a satisfactory guarantor of a financial scheme. The Richard Charles Mason Pooley, M.R.C.P., &c., V.D., of Monkhams, Woodford Green is undoubtedly the Mr. Pooley of Eden Hall, for in a letter written to one of our correspondents who had inquired about the Turvey treatment Mr. Pooley replied on paper headed "Monkhams, Woodford Green," which he said was the old name of Eden Hall used by him in his private correspondence. The possession of two addresses, which are really one and the same address, does not commend itself to us, the opportunity thus given for mystification being obvious, and therefore particularly unfortunate in a man who is circularising the medical profession with invitations to part with money upon the strength of his personal assurance. But granting that there are reasons why an inebriate home might well be conducted under a private address as well as a professional address, Mr. Pooley's other varieties of style and location display a tendency to be confusing and confused. We learn from the prospectus of the Leon Syndicate that his name is Richard Charles Mason Pooley and that he lives at Monkhams, Woodford Green. We learn from the current Medical Directory, where, however, the name has an asterisk, and from the Medical Register, that the address of Richard Charles Mason Pooley is 35, Highbury-grove, N., while there is no Richard Charles Mason Pooley among the provincial names. Whatever the intention the significance of this seems to be that if anyone consults the Medical Directory to find out the name of the medical officer of the Turvey Sanatorium at Woodford the name will not be found. Mr. Pooley uses only two initials in signing his letters and on the various Turvey documents is styled "Dr." Pooley. In the Medical Register he is described as M.R.C.P.I.; in one of his advertisements which we have received he figures as M.R.C.P.E. and V.D. The assumption of the medical degree is made by others besides Mr. Pooley—we hasten to admit this—but it is none the less an assumption and warrants us in asking the date on which he received his military decoration. We do not say that he does not possess it, but we cannot find his name in the more recent lists of officers possessing the decoration. When we recall that Dr. R. M. Pooley, or Mr. R. C. M. Pooley, of Eden Hall, Woodford, or Monkhams, Woodford Green, and also of 35, Highbury-grove, N., can moreover be addressed at Amberley House, the office of the Turvey Treatment Company, we do not yet exhaust the number of roofs that shelter him. He is to be seen "generally here between 3 and 4 o'clock," "here" being the office of the Leon Syndicate, and the invitation is extended to members of the medical profession desirous of participating in the benefits of that scheme.

We commend Mr. Pooley to the attention of the General Medical Council, at whose disposal are the documents from which this statement is written.

THE MORISON LECTURES.[1]

THE second of these lectures was delivered in the hall of the Royal College of Physicians, Edinburgh, on Jan. 26th. Dr. W. FORD ROBERTSON said that he wished to deal chiefly with the results of an experimental inquiry that Dr. G. Douglas McRae and he had made into the action of the living blood and blood serum upon pure cultures of diphtheroid bacilli isolated from cases of general paralysis. The bacillus with which they had worked was one which in respect of its morphological characters, staining reactions, and power to form acid in glucose broth, closely resembled the Klebs-Löffler bacillus. It had been laid down by high authorities that an organism differing from the diphtheria bacillus solely in want of virulence must be regarded as merely a diphtheria bacillus in an attenuated condition and should be spoken of as such. In previous papers the organism had therefore been provisionally regarded as an attenuated form of the Klebs-Löffler bacillus. Whether it was really of this nature or not was an open question. Their more recent observations strongly inclined them to the view that it was a special organism. Having referred to the remarkable polymorphism of this bacillus, the lecturer considered specially its thread form. The organism had been observed to invade the tissues in this form in several general paralytics; it had also been observed invading in four rats fed or injected with cultures of the bacillus. The bacillus when first isolated often showed a strong tendency to form threads. They had endeavoured to ascertain how the organism could be made to assume this special character and they had succeeded in obtaining a filamentous growth by cultivating it for several days at 41° C. upon blood films. It was therefore probable that invasion by the thread form occurred in cases in which there had been a sustained high temperature for several days before death. One of the points which they had specially studied was the phagocytic action of the leucocytes upon the bacillus. They had used a technique of their own. Two actions required to be studied—namely, the power of the leucocytes (in the natural serum) to take up the bacilli and the power of the leucocytes to dissolve the bacilli when engulfed. No constant alteration could be detected in the power of taking up in the general paralytic's blood. On the other hand, the power of dissolving the bacilli when taken up had in most cases been distinctly greater on the part of the leucocytes of the general paralytic than on that of the leucocytes of the controls. Within the first three hours of incubation at least the lysogenic action was entirely intracorpuscular. Having studied the appearance presented by the dissolving organisms in the experimental films, they endeavoured to ascertain if bodies having a similar appearance could be found in the fluid and tissues of the general paralytic. Every case studied with this object had given the same affirmative answer. Diphtheroid bacilli, more or less altered by lysogenic action, were present in great numbers in the catarrhal pneumonic foci that occurred in most general paralytics dying in congestive attacks. They could also be detected in the adventitial spaces of the inflamed cerebral vessels and in the meshes of the pia arachnoid. Further, they could be observed in the films made from the blood of the living paralytic, especially if the patient was suffering from a congestive attack. They could also be detected in the centrifuge deposit from the cerebro-spinal fluid obtained by lumbar puncture. Lastly, they were often present in large numbers in the centrifuge deposit from the urine, especially during a congestive attack. This experimental study had suggested to them that failure to obtain cultures from the blood and cerebro-spinal fluid depended upon the fact that most of the bacilli were dead and that the few living ones that were occasionally present were killed in consequence of the continued action of the phagocytic cells. They had therefore tried various measures with a view to prevent the continuation of this bactericidal action, the simplest of which was to allow the tubes to stand in the cold for 24 hours before incubating them. By adopting this plan, or slight modifications of it, they had succeeded in getting pure growths from the blood in four cases (three of the

[1] An abstract of the first lecture was published in THE LANCET of Feb. 3rd, 1906, p. 324.

patients being in congestive attacks) and from the cerebro-spinal fluid in two. The growths were at first generally extremely feeble but the organism could be invigorated by being subcultured upon blood films. A search had been made for a specific action of the blood of the general paralytic upon these bacilli. The most distinctive reaction they had obtained was that which concerned the power of the leucocytes to dissolve the bacilli. They had estimated the percentage of altered bacilli in the leucocytes after three hours' incubation. This gave what they called the intra-corpuscular bacteriolytic index. So far as their observations went it was as a rule higher in the general paralytic's blood than in control bloods. It seemed, however, probable that more direct methods of bacteriological diagnosis would become available.

The third lecture was given on Jan. 29th. Dr. Robertson said that in discussing the problem of the etiology and pathogenesis of general paralysis and tabes dorsalis in the light of the investigations detailed in the two preceding lectures, he wished so far as possible to avoid a controversial attitude. His purpose was simply to endeavour to show that a new and solid edifice could be constructed out of the facts elicited by his colleagues and himself. A passing critical reference to the syphilitic hypothesis was, however, inevitable. He contended that the part played by syphilis was only that of weakening the general and local defences. There were many strong reasons for believing that these diseases could not be essentially syphilitic in their causation and, moreover, there was the clearest evidence that the general paralytic suffered from an active bacterial toxæmia. Having summarised the evidence in support of the view that general paralysis and tabes dorsalis are dependent upon infection by a diphtheroid bacillus, he described what appeared to him to be the essential pathogenesis of these two diseases. In general paralysis the specific bacillus appeared to be conveyed from individual to individual by contagion. There was ample warrant for the conclusion that it could neither multiply to any extent upon a healthy mucosa nor invade the tissues. A preliminary weakening of the local and general defences was evidently necessary. There were numerous inimical forces that could produce this condition of impaired local and general defence, but there were three that seemed of special importance in relation to general paralysis and tabes dorsalis. They were the pathogenic agent of syphilis, alcohol, and nitrogenous foods used in excess. There was evidence that a mere saprophytic infection might continue for a long time without leading to any important toxic effects. It was probably only when the state of the local and general defensive forces was such as to permit of the bacillus invading the tissues that the paralytic toxæmia became of any great intensity. Of the occurrence of such invasion there was ample evidence. The more recent observations of Dr. McRae and himself had led them to attach special importance to the bronchi as a seat of chronic infection, although there were many cases in which bacillary invasion could be shown to have taken place from the alimentary tract. It was virtually a life-and-death struggle between the bacilli and the polymorphonuclear leucocytes. It was a conflict in which the leucocytes after a long succession of victories were ultimately defeated, for their power of renewal was limited, whilst that of the bacilli was virtually unlimited. Under certain conditions the defensive forces were placed at a disadvantage. One of these conditions had been ascertained experimentally. It had been found that lowering of the temperature 4° or 5° C. below the normal greatly diminished the power of the leucocytes to take up these bacilli. It was therefore reasonable to believe that lowering of the body temperature was an important cause of aggravation of the bacillary attack. Local invasion manifested itself clinically in a congestive attack. Large numbers of the bacilli reached the circulation either by way of the lymphatics or through the capillary walls. They could be seen in the blood stream in the neighbourhood of the infective foci and also in films made from the patient's blood during life. Most of the bacilli that reached the blood were quickly seized by leucocytes and digested, but many escaped from the circulation in one or other of two ways—namely, through the capillaries of the kidney into the urine and through the walls of the cerebral vessels into the adventitial lymph channels. The further disintegration of the bacilli that took place in these lymph channels gave rise to a local toxic action. There were thus a general toxæmia due to the disintegration of the bacilli at the seat of invasion and in the blood and an added local cerebral toxic action dependent upon the disintegration of the bacilli that had passed through the endothelium of the cerebral vessels. In some instances a successful repulsion of the invasion was followed by a prolonged period in which the bacillus was kept at bay. Clinically, this corresponded to a remission. More commonly there were a continuous comparatively slight absorption of toxins from the infective focus and a succession of more or less severe invasions, which time after time were repelled. In the end, however, the defensive forces were overcome. There was then a fatal congestive attack. Coming next to the subject of the pathogenesis of tabes dorsalis, Dr. Robertson referred to the recent observations of Orr and Rows upon the production of tabetic lesions of the cord by the absorption of toxins from peripheral septic foci. The toxins passed up the perineural sheaths without injuring the nerve fibres and affected the fibres of the posterior root as they entered the cord at the spot where they lost their neurilemma sheath. In order to account for the similar lesions that occurred in tabes it was necessary to find some peripheral toxic focus. So far as their evidence went, it pointed to this focus being in the bladder. In ten consecutive cases of tabes they had found that there were abundant living diphtheroid bacilli in the urine and therefore the patients were suffering from a diphtheroid cystitis. In these cases the bacilli were present in too great numbers to have come merely from the urethra which in other cases very frequently contained some diphtheroid bacilli. If further observations confirmed the testimony of these ten cases, then they would be bound to conclude that in tabes dorsalis there was in the urinary tract an infective focus comparable to that which occurred in the respiratory or alimentary tract in general paralysis. The bacilli were invading and therefore produced toxic effects far greater than those that resulted from the simple passage of disintegrating bacilli through the urinary tract. After referring briefly to some objections that might be raised to the views advanced, he considered the question of treatment. There was evidence that the general paralytic defended himself, and often with prolonged success, by manufacturing specific bacteriolytic antibodies. It seemed, therefore, worth while to produce such antibodies in suitable lower animals and to use them as therapeutic agents. They were, at least, going to give this method of treatment a trial. In conclusion, he said he desired to acknowledge his indebtedness to the General Board of the Laboratory of the Scottish Asylums, and to the representatives of the Edinburgh, Glasgow, Dumfries, Aberdeen, and other asylums for the facilities which they had offered his colleagues and himself for carrying out their researches. The lectures will be published in full in the *Review of Neurology and Psychiatry*.

PREPARATIONS FOR THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE work of organisation for the Fifteenth International Congress of Medicine, which is to meet at Lisbon next April, progresses apace. A sort of newspaper called the *Bulletin Officiel* has been issued from time to time, giving details as to the papers to be read, the classification of the subjects, and even some portraits and biographical sketches of eminent promoters of the Congress who have died before the realisation of their hopes in regard to this great scientific assembly. The secretary of the section of ophthalmology, Professor Hygino de Sousa, succumbed to the effects of mesenteric tuberculosis from which he had long suffered. Then Professor Serrano of the Lisbon Medical School, who was to have presided over the section of anatomy, is also dead. His two big volumes, entitled "A Treatise of Osteology," are well known among Portuguese medical students. There are, finally, in the *Bulletin Officiel* a portrait and obituary notice of Dr. Cunha Bellem who had been appointed president of the fifteenth section, which will treat of military medicine. Dr. Cunha Bellem had studied extensively the details of sanitary science, especially in relation to the maintenance of the health of armies. In spite, however, of these most regrettable losses the organisers of the Congress have succeeded

in making one or two important innovations. Apart from the *Bulletin* already mentioned they have not only settled in which rooms the sections of the Congress are to meet but they have published a plan of each floor of the School of Medicine where the Congress is to assemble. Every compartment, room, amphitheatre, or hall is numbered and a reference shows at once the employment for which it is destined. Thus those who want to inquire about travelling and excursions must go to room No. 13 on the ground floor. Others who are anxious about obtaining lodging accommodation must go to Room 27 on the same floor. Anyone who desires to leave his coat or bag must find out Room 38 and those who have not paid their entrance fee will find the cashier in Room 40. Altogether there are 43 different rooms and halls on this one floor. On the first floor, which is as large, there are only 30 rooms, but these are much more spacious. These will be occupied by sections likely to attract many members of the Congress. Then there is an annex with 21 rooms or divisions and one of these is a kitchen and another comprises a terrace and restaurant. Thus it will be possible to have meals without leaving the premises where the Congress will meet. Even the conferences or special lectures that do not form part of the work of the sections are to be given here. It will be remembered that at Madrid and in other towns such meetings were convoked in different parts of the cities and much trouble and time were expended in going about to find the particular hospital or building where a lecture had been announced. At Lisbon, on the contrary, all is concentrated in the one building. Consequently the position of this one building becomes a matter of primary importance.

Few persons are likely to undertake such a voyage without providing themselves with a Baedeker, and therefore it has been the subject of special correspondence on our part to ascertain where in Baedeker's map the *locale* of the Congress is situated. The answer is that Congress will meet in the square formed by the letter G and the number 2 in the map of Lisbon that will be found in Baedeker's Guide to Spain and Portugal. But the organisers of the Congress are preparing a medical guide to Lisbon and this will contain a new map drawn and printed expressly for the Congress. In this new map the Congress *locale* is in the square marked by the lines G, No. 6. It will be seen that the Escola Medica, where the Congress is to meet, overlooks the field of martyred patriots, Campo dos Martyres da Patria. Within a few hundred yards there is a circle of hospitals. Thus close to, and due south of, the Escola Medica are the Bacteriological Institute and the Hospital de S. José. South-west, and equally near, there is the Hospital de S. Lazaro. Due west at a distance of 200 yards is the Hospital do Desterro. To the north-west and a little farther off there is the Asylo de Sto. Antonio. The Hospital D. Amelia is in the same direction but much further away. Due north but not quite so near as the hospitals to the south, are the Hospital de D. Estephania, the veterinary institution, and the lunatic asylum, and to the north-east the hospital of St. Matha. Close at hand to the due east are the Asylum for the Poor and the Ophthlamological Institute. Finally, to the south-east are the botanical gardens, the polytechnical schools, and the headquarters of the Medical Association of Portugal, and farther away is the Academy of Science. Thus we find here a double centralisation. First, everything that forms part of the Congress will take place in the one building, and secondly, that one building is itself situated in the very centre of all the hospitals and other institutions which members of the Congress are likely to visit. Topographically speaking, therefore, everything seems to have been arranged very conveniently. As time is always most precious during such congresses these advantages are sure to be appreciated highly.

Further, and this will not only economise time but will very materially help to render the discussions of the Congress more interesting and useful, a large number of the reports by which the debates are to be opened have been written and are already printed. The reporters themselves are unfortunately prone to postpone writing their reports to the last moment, so perhaps it will not be possible to publish them all before the Congress meets. Nevertheless, a very large number of these reports will be in the hands of those who are interested in their subject matter before the Congress meets. Thus it will be possible to prepare replies to the reporters and to look up evidence or data for the purpose. Considering that all this work of organisation was commenced in 1904, and has been continued ever since, everything should be ready in good time. There is every reason therefore to hope that the Congress will prove a success and that the organisers will earn the gratitude of the medical profession throughout the world.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 9th, 1828.

*Sitting of Surgery.**

BLINDNESS FROM WORMS IN THE EYES.

M. J. Cloquet communicated to the Sitting, a curious case of a man attacked with several subcutaneous abscesses on the head, in consequence of a considerable deposit of the eggs of flies on this part. An old man fell asleep in the open air; the flies, attracted by the bad odour which exhaled from his body, deposited their eggs in great numbers between the eyelids, in the auditory passages, on the cheeks, the head, and beneath the prepuce. After a few days the eggs produced larvæ, which, at first, occasioned a very troublesome itching, then several abscesses formed beneath the integuments of the head, and the temples, and in the orbit. When the man was admitted into the hospital, there was an ichorous discharge from all these parts, from the auditory passages, and the prepuce, containing a number of small worms, which were found to be the larvæ of the *musca carnaria*. M. J. Cloquet removed a great quantity of these worms, and employed mercurial frictions to destroy the remainder. At present, the patient is in a fair way of recovery; but, from the worms having perforated the eyes, he is quite blind. Notwithstanding the extent of mischief produced by these animals, no hæmorrhage occurred. M. Larrey stated, that he had often seen, during the campaign in Egypt, worms in wounds; but they never attacked dense tissues as those of arteries, which might account for no bleeding having occurred in the case related by M. Cloquet.

MEDICINE AND THE LAW.

Is a "Doctor's Boy" a Male Servant?

A SUMMONS was heard recently at the South-Western police court against a medical man practising in Battersea for keeping a male servant without a licence. Evidence was given on behalf of the Inland Revenue authorities that the boy in question, who presumably may be regarded as typical of a good many doing like work, opened the surgery door to patients, ran his master's errands, including the delivery of medicine, and performed such domestic duties as cleaning windows and boots. The defendant's advocate contended that the position of the boy corresponded to that of a lad employed by such a trader as an oilman, whose main occupation would be to deliver the goods sold by his employer but who might incidentally be a member of his household and perform other duties therein. It certainly would surprise an oilman who employed his errand boy to black his boots and clean his windows to learn that he was keeping a male servant and must pay in respect of him the licence fees demanded from his wealthier customers for their butlers and footmen. Mr. de Grey, however, took the view that the youth in question was a page and refused to accept the view that he was a "doctor's boy" kept to run errands. He held as a fact that the employment was mainly domestic and that the delivery of medicine was merely incidental to it and he ordered 15*s.* for the licence and 2*s.* costs to be paid by the defendant. We are not aware of the exact extent to which the boy in this case was engaged in the dwelling-house and in duties inseparably connected with that portion of his employer's premises. It is probable, however, that but for the delivery of medicine the defendant would have had no reason for keeping a boy at all, and that his duties, so far as they were connected with the profession of his master, did not make him any more a domestic servant than would those performed by a solicitor's office-boy. The polishing of the brass plate, for example, on his

* Archives Generales, Dec 1827.

master's door, together with all work done in or about the surgery, would be an office boy's work and not domestic service, equally with the delivery of medicines, the necessity for which caused him to be employed at all. If he was useful to the medical man in his private capacity it seems likely that this was incidental rather than essential, unless his functions differed from those of the majority of lads employed in capacities apparently similar.

The Defence of Insanity.

At the recent Aylesbury assizes while a murder charge was being tried Mr. Justice Jelf stated that at a meeting of the judges held lately they had objected to the growing practice of the Treasury as prosecutors offering in these cases evidence to rebut the plea of insanity. In this case counsel for the Treasury had taken expert medical opinion and were prepared to call witnesses in support of the sanity of the prisoner. The learned judge affirmed that the onus of proving insanity is upon the defence and the evidence available should be at their disposal.

The Status of the Unborn Child.

This matter has again arisen in an Appeal Court of the United States of America in the case State (*ex rel.* Niece) *v.* Soale. The statutory word "person" has by this decision been given a latitude not previously recognised. It was held in this case that an act giving a right of action to any person damaged in his means of support in consequence of the unlawful sale of liquor applies to a child born after the death of his father resulting from such a sale. This decision in no way compromises the view that an unborn child is denied a right of recovery for physical injuries caused before his birth; such a child will not be considered as a "person" under statutes similar to Lord Campbell's Fatal Accidents Act which allows suits by representatives of deceased persons. In both these cases the unborn child is regarded as part of his mother's body. It has been argued, however, that logical consistency may be maintained by predicating a right to *mens sana in corpore sano* at birth, a breach of which, though previously occasioned, does not arise until after birth. The right of support is regarded as a property right and the analogy of cases, allowing unborn children equal proprietary rights with other children, is recognised in applying statutes which permit children to recover for loss of support through death of their parent. The status of unborn and posthumous children has quite recently been considered in THE LANCET.[1]

The Sale of Spirits in Russia for Medicinal Purposes.

According to the *Torgovo Promyshlennaya Gazeta*, the Minister of Finance has given permission for the sale of wines and spirits from the Government spirit shops to medical men for curative or medicinal purposes outside the regulation hour limits.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8557 births and 4708 deaths were registered during the week ending Feb. 3rd. The annual rate of mortality in these towns, which had been 16·7, 15·8, and 15·9 per 1000 in the three preceding weeks, declined again last week to 15·5 per 1000. In London the death-rate was 14·8 per 1000, while it averaged 15·8 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·9 in Hanley, 8·0 in Willesden, 8·2 in Handsworth (Staffs), 9·2 in East Ham, 9·5 in Northampton, 10·2 in Coventry, 10·5 in Wallasey and 10·7 in Walthamstow and in West Hartlepool, while the highest rates were 20·7 in Oldham, 20·8 in Plymouth, 20·9 in Stockport, 21·2 in Rhondda, 21·5 in Preston, 22·1 in West Bromwich, 23·2 in Newport (Mon.), 23·3 in Grimsby, and 25·7 in Merthyr Tydfil. The 4708 deaths in these towns last week included 366 which were referred to the principal infectious diseases, against 389, 369, and 385 in the three preceding weeks; of these 366 deaths, 110 resulted from whooping-cough, 85 from diphtheria, 81 from measles, 42 from diarrhœa, 35 from scarlet fever, 12 from "fever" (principally enteric), and one from small-pox. No death from any of these diseases was registered last week in Great Yarmouth, Walsall, Handsworth (Staffs), West Bromwich, Grimsby, Stockport, Birkenhead, Wallasey, Wigan, or Middlesbrough; among the other towns the highest death-rates from the principal infectious diseases were recorded in Birmingham, Derby, Bootle, Bury, Blackburn, Preston, Halifax, Stockton-on-Tees, and South Shields. The greatest proportional mortality from measles occurred in Bury, Blackburn, and Preston; from scarlet fever in Hanley and Blackburn; from diphtheria in Ipswich, Aston Manor, Derby, Halifax, and Hull; and from whooping-cough in Bootle, Burnley, and Stockton-on-Tees. The mortality from "fever" and that from diarrhœa showed no marked excess in any of the large towns. One death from small-pox was registered in South Shields, but not one in any other of the 76 towns, and no cases of this disease were under treatment last week in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Feb. 3rd, was 2912, against 3062, 3066, and 2983 on the three preceding Saturdays; 319 new cases were admitted during the week, against 257, 328, and 322 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 370, 299, and 293 in the three preceding weeks, rose again to 313 last week, but were 65 below the average number in the corresponding periods of the four preceding years. The causes of 60, or 1·3 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Bradford, Leeds, Hull, and 46 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Walsall, West Bromwich, Birmingham, Coventry, Leicester, Nottingham, Liverpool, Bootle, Rotherham, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·8, 18·2, and 19·6 per 1000 in the three preceding weeks, declined again to 16·5 per 1000 during the week ending Feb. 3rd, but was 1·0 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·7 in Aberdeen and 15·9 in Glasgow, to 19·0 in Dundee and 19·2 in Greenock. The 564 deaths in these towns included 18 which were referred to measles, 18 to diarrhœa, six to whooping-cough, four to diphtheria, and one to "fever," but not any to small-pox or scarlet fever. In all, 47 deaths resulted from these principal infectious diseases last week, against 61, 53, and 69 in the three preceding weeks. These 47 deaths were equal to an annual rate of 1·4 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 28, 24, and 31 in the three preceding weeks, declined again last week to 18, of which 12 occurred in Glasgow, three in Dundee, and two in Greenock. The deaths from diarrhœa, which had been 16, 19, and 13 in the three preceding weeks, rose again to 18 last week, and included ten in Glasgow, four in Edinburgh, and two in Perth. The fatal cases of whooping-cough, which had been five, two, and seven in the three preceding weeks, declined again last week to six, of which four occurred in Glasgow. The deaths from diphtheria, which had been eight, five, and 12 in the three preceding weeks, declined again to four last week, and included two in Greenock. The deaths referred to diseases of the respiratory organs in these towns, which had been 126, 114, and 110 in the three preceding weeks, rose again last week to 113, but were 33 below the number in the corresponding period of last year. The causes of 17, or 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·7, 20·1, and 21·2 per 1000 in the three preceding weeks, further rose to 24·4 per 1000 during the week ending Feb. 3rd. During the past four weeks the death-rate has averaged 21·9 per 1000, the rates during the same period being 15·8 in London and 18·2 in Edinburgh. The 177 deaths of persons belonging to Dublin registered during the week under notice were 17 in excess of the number in the preceding week and included five which were referred

[1] THE LANCET, March 25th, 1905 (p. 813), and April 1st (p. 877).

to the principal infectious diseases, against seven, three, and five in the three preceding weeks; of these, two resulted from whooping-cough, and one each from diphtheria, "fever," and diarrhœa, but not any from small-pox, measles, or scarlet fever. These five deaths were equal to an annual rate of 0·7 per 1000, the death-rates last week from the principal infectious diseases being 1·1 in London and 0·8 in Edinburgh. The fatal cases of diphtheria, which had been three, one, and one in the three preceding weeks, rose again last week to two. The 177 deaths in Dublin last week included 32 of children under one year of age and 63 of persons aged 60 years and upwards; the deaths both of children and of elderly persons were in excess of the respective numbers recorded in the preceding week. Four inquest cases and four deaths from violence were recorded; and 79, or more than two-fifths, of the deaths occurred in public institutions. The causes of eleven, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: J. E. Coad to the *Black Prince;* J. H. Stenhouse to the *Aboukir;* and W. A. Whitelegge to the *Cornwallis.* Staff Surgeon M. J. O'Regan to the *Trafalgar.* Surgeons: P. D. Ramsay to the *Cornwallis;* E. B. Kenny to the *Redbreast;* and L. F. Cope to the *Attentive,* on commissioning.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated Jan. 29th, 1906):—Michael Boyle, Percy Evans, Claude K. Morgan, John M. Buist, and George St. C. Thom.

Captain W. W. Scarlett assumes medical charge of troops, Piershill. The following officers proceed to India: Lieutenant-Colonel C. W. Thiele for Secunderabad Division; Lieutenant-Colonel T. B. Winter for the Eastern Command; Lieutenant R. E. Humfrey and Lieutenant G. G. Tabuteau for the Western Command. Captain A. H. Safford has joined at Woolwich. Major C. H. Melville (who has been appointed a member of the Army Medical Service Advisory Board) and Major T. H. F. Clarkson have joined the London District for duty.

ROYAL ARMY MEDICAL CORPS EXAMINATION.

The following is a list of successful candidates for commissions in the Royal Army Medical Corps at the recent examination in London, for which 74 candidates entered. 16 of the successful candidates possess university qualifications.

	Marks.		Marks.
Charles Milligan Drew ...	596	Victor Cyril Honeybourne	507
Archibald Alfred Sutcliff ...	585	James Clarence Ledeatt Hingston	504
Arthur Gordon Cummins...	584	George Bennicke Edwards	504
Alfred Sutton Millard ...	577	Frederick Duke Gwynne Howell	501
Hugh Evelyn Gotelee... ...	573	Charles Reade Munroe Morris	499
Archibald Smith Littlejohns	568	Patrick Sampson	499
Frank Alexander McCammon	558	William Harold Gillatt ...	498
William Rickards Galwey...	548	John Walter Lennox Scott	498
Robert George Archibald ...	543	William Clayton Smales ...	498
George De la Cour	541	John Browne Grogan Mulligan	496
William Egan	536	Arthur Herbert Bond... ...	494
Frank Forrest	535	Marcus Graham Dill	494
Timothy William Octavius Sexton	535	Richard Ernest Upton Newman	492
Robert George Hetherington Tate	534	Harold Jacques	489
Augustus Scott Williams...	532	Donald de Courcy O'Grady	484
Alexander Dawson	515	Thomas Trevor Hull Robinson	484
Clive Thornley Edmunds ...	514	Thomas Christie Cyprus Leslie	483
Valentine Goode Johnson...	513	Lawrence George Gibson...	480
Ernest William Mynall Paine	513	Philip Smyly Stewart ...	475
Edward John Porteous ...	511		
Edward Michael O'Neill ...	509		

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 3rd Middlesex: Surgeon-Major J. I. Palmer resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated Jan. 15th, 1906).

Rifle: 6th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant C. B. Gunn to be Surgeon-Captain (dated Feb. 7th, 1906). 2nd Volunteer Battalion the Royal Sussex Regiment: Supernumerary Surgeon-Captain (Honorary Captain in the Army) G. Black is absorbed into the Establishment (dated Jan. 17th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

On Saturday, Feb. 17th, at 8 P.M., at the headquarters of the corps, Calthorpe-street, London, W.C., Colonel A. T. Sloggett, C.M.G., R.A.M.C., P.M.O. of the London district, will deliver the prizes won by the members of the London companies of the Royal Army Medical Corps (Volunteers). After the distribution of prizes a dance will be held.

THE CIVIL AND MILITARY BRANCHES OF THE MEDICAL PROFESSION IN PEACE AND WAR.

Surgeon General A. H. Keogh, C.B., Director-General of the Army Medical Service, delivered the inaugural address of a course of lectures on Army Medical Administration and Duties at the West London Hospital on Jan. 20th. The Director-General pointed out that it was interesting to study the relation between arms and medicine, for it was certain that medical men could largely influence the successful issue of campaigns. In order to attain this end not alone is a competent knowledge of medicine in its widest sense necessary, but also some knowledge of the art of war, in order to be able to coördinate with the military requirements of the moment. The care of the sick and wounded is therefore but one portion of army medical duties; the means for the early removal of the sick and wounded from the front must be studied, also the measures to be adopted for the suppression of diseases, and, most important of all, the prevention of disease. The lecturer then proceeded to give a short account of the origin and history of the Army Medical Service and went on to describe what had been done since the close of the South African war to improve the education of the officers by the establishment of the Royal Army Medical Corps College in London and by the formation at central hospitals of hygienic and clinical laboratories; and he acknowledged that the opportunities afforded by these institutions had been accepted by the officers with remarkable enthusiasm and zeal, while the civilian medical men called to aid in the instruction of officers had given cordial cooperation. He then proceeded to describe the lines which this course of lectures should, in his opinion, follow in order to draw more closer together the civilian and military branches of the medical profession, as by this intimate union alone can military medical efficiency in war be attained.

THE ADMIRALTY AND MEDICAL OFFICERS OF HEALTH.

At the meeting of the St. Austell (Cornwall) rural district council held on Feb. 2nd reference was made to the medical officer of health having been refused admission to a coastguard station from which a case of enteric fever had been notified. It was stated that the Admiralty, in reply to a communication from the council, had expressed its willingness to give full consideration to any representation made by a local authority, but it could not divest itself of its duty as a department of State to look after its own establishments, which did not fall within the jurisdiction of local authorities.

Correspondence.

"Audi alteram partem."

THE PRESENT MEDICAL CURRICULUM.

To the Editors of THE LANCET.

SIRS,—The report recently made to the Royal College of Physicians of London by a committee appointed to consider a communication from the Royal College of Surgeons of England on the subject of the medical curriculum is now public property and, taken along with the admitted falling off in the entry of medical students, calls attention to a state of affairs which seems to demand speedy remedy. The present system of medical education appears to be a compromise between the competing claims of various sciences. The medical student passes through many hands and the teacher of each branch tends to claim the greatest possible amount of time for his particular specialty. As a result we run the risk of losing sight of

the true object of medical education which is simply to endow the future medical practitioner with the knowledge requisite to enable him to treat sick persons in the best possible manner. For this purpose he must know the structure and functions of the human body in health and disease, and the action and administration of all recognised remedies. In other words, he must become acquainted with the truths of anatomy, physiology, and pathology, and with chemistry, materia medica, and therapeutics—these together forming the basis of his practical knowledge. In addition, the medical practitioner should possess such a measure of general culture as will enable him to meet well-informed persons among his patients on equal terms; he will thus uphold the credit of what was once considered a learned profession. It is at the entrance examination before registration that the student's possession of this latter requirement should be ascertained. If we ask how far these objects are fulfilled by the present arrangement we have to confess that it is doubly defective. The standard of the entrance examination is so low that students often appear unable to write their own language accurately, have no knowledge of its literature, and little general information. On the other hand, the purely professional side of the curriculum is overloaded with unnecessary matter. A course of instruction in physics and biology is not essential for the treatment of disease. It should, perhaps, form part of the general education of all cultivated persons at the present day, but so long as it does not do so it should not be compulsory upon medical students. These subjects should form part of the entrance examination but should be optional, along with a sufficient range of alternative subjects, such as modern languages, history, geography, and so on. The subsequent course of professional study would then be limited to the sciences mentioned above as essential. If the curriculum were thus curtailed the student would have time in a five-years' course for that amount of bedside study which is now so conspicuously neglected in favour of theoretical work. At present we are turning out at our medical schools men with a smattering of many sciences but with little practical ability to treat the sick.

I am, Sirs, yours faithfully,

Harley-street W., Feb. 5th, 1906. WM. CECIL BOSANQUET.

THE DISTRIBUTION OF MALTA FEVER (WITH AN ACCOUNT OF A CASE OF A MIXED INFECTION OF ENTERIC AND MALTA FEVERS).

To the Editors of THE LANCET.

SIRS,—On p. 1931 of THE LANCET of Dec. 30th, 1905, in the review of medicine during the year, it is stated that in few parts outside Malta is Malta fever bacteriologically proved to exist and that its distribution is probably very limited. However, that Egypt must be definitely added to the countries in which it exists endemically the following facts will show. The first case that I saw was in consultation two and a half years ago; the subject was a British officer who caught an illness while shooting in the Sudan; its nature was not clear at first and he had been treated freely with quinine without success. It was characterised by an undulant type of fever and profuse sweats. On my suggestion his blood was examined and was found to agglutinate the micrococcus Melitensis. In 1905 I had six cases under my care in Cairo, five of whom contracted it there, and in all of whom the blood agglutinated the micrococcus Melitensis; they were thefore undoubted cases of the disease looked at from a bacteriological standpoint as well as from a clinical one. The main details are as follows:—

1. An Englishman, who had formerly been in the army but who now was engaged in the Cairo police service, was taken ill in September with fever. He had diarrhœa at first and was very delirious and was with difficulty kept in bed; he was, in fact very ill. On the thirteenth day of his illness his blood was found by Dr. A. R. Ferguson, professor of pathology at the Government School of Medicine, to agglutinate the bacillus typhosus in dilutions of 1 in 20 and 1 in 40. The attack was further characterised by constipation and lasted 27 days. On the thirty-seventh day he had a similar relapse which was equally severe—in fact, he nearly died. The temperature touched the normal point on the fifty-sixth day and after remaining steady for two days between 36·5° and 37·5 began oscillating daily until the sixty-fourth day between 36° and 38·5° C. On the eighty-first day he began another attack of fever; this was, however, of an intermittent type, and being accompanied by symptoms of bladder irritation I put it down to that cause, but on their subsidence the fever continued. The clinical picture was quite different; there was no delirium and he could read and talk on any subject. The temperature ranged from 37° to 39·5° C. I began to have suspicions about its nature when one morning he told me that he thought he had "slow continued fever" which, he said, he had seen a lot of when he was in Malta in 1897 (eight years before). I had a blood test done with the result that the Malta fever micrococcus was agglutinated. A week later I had the test again applied by Dr. Dryer, the medical officer of health of Cairo, with the result that it was again positive for Malta fever but now negative for enteric fever, the agglutinins of the latter having apparently been destroyed by the other infection. This relapse lasted until the 106th day. Towards its end I put him on liquor hydrargyri perchloridi in drachm doses and kept him on it for four weeks after the fever subsided with the result that there has been no return. (In another case I found this drug equally successful in preventing a fresh relapse. I had previously tried a drug found to be very successful at Port Said by Dr. W. A. Betts—viz., sodium hyposulphate—without success.)

This case is of interest as being one of a double infection with the microbes of enteric and Malta fevers and is, I believe, the first to be put on record with a definite proof by serum diagnosis. The original attack and the first relapse were clinically typhoid fever, whilst the second relapse was clinically Malta fever. Looking back at the oscillations at the end of the first relapse, which I disregarded when taking into account his treatment, I feel certain that they were caused by the Malta fever element.

2. A Coptic lady had been ill for about three months with a fever characterised by relapses. When I saw her she had fever which mounted to 39·5° C. and she had vague pains and a very foul tongue. I had the blood tested the day after I saw her for the first time, with a positive result against the micrococcus Melitensis. She had a further relapse and went away into the country in disgust, where I hear she is still ill.

3. An Egyptian, living about six houses away from the preceding case, called me in a few days later and told me that he had had Malta fever for the last eight months. The first attack was in Cairo. He then went down to Alexandria where a relapse occurred. His blood was tested then and was found to agglutinate the micrococcus Melitensis in a dilution of 1 in 500. He then went over to Vienna where a further relapse occurred. He was seen by Professor Nothnagel, who had a further blood examination made, with a positive result of 1 in 1000 When I saw him he was in his sixth relapse, one of the undulant type. This passed off and after a clear interval of 51 days he had another relapse of the intermittent type; this has only just come to an end. About a month ago his blood agglutinated the micrococcus in a dilution of 1 in 300.

4. A Berberine servant, living in Cairo, was admitted under me in Kasr-el Aini Hospital with a diagnosis of rheumatic fever. He had a mitral systolic murmur and the condition at first closely resembled that disease; but salicylate of soda administered for ten days had no effect on the disease save to relieve his joint pains slightly. I now thought that the temperature might be due to infective endocarditis and put him on perchloride of mercury. I, however, had his blood examined by Dr. Ferguson with the result that it was found to agglutinate the micrococcus Melitensis. His temperature came down and remained permanently down. He, however, still had the systolic murmur on his discharge. I attribute his cure largely to the perchloride of mercury.

5. A native policeman was attending my out-patient department with chronic rheumatic pains and slight fever (37·8° C.). After his disease had resisted salicylate for some weeks I had his blood tested with a positive result. He, however, refused to become an in-patient.

Besides these cases there have been a number at the Cairo Fever Hospital during the last summer. They were all proved to be Malta fever. There have been other cases under private medical men. At Port Said there has been quite an epidemic of the disease, and moreover one of the Government medical men there has been under my care in Cairo for this disease (also proved by the serum test). Goats are common wayside objects in Cairo, large herds parading the streets and feeding on brown paper and other rubbish, and probably their milk is largely used, as owing to cattle plague great

numbers of cows have died, and possibly their milk is mixed with cows' and buffalo milk for consumption. With the facts as stated above I hold that Egypt must definitely be added to the localities in which Malta fever occurs.

I am, Sirs, yours faithfully,

LLEWELLYN PHILLIPS,
Physician, Kasr-el-Aini Hospital, Cairo, and Professor of Clinical Medicine in the Egyptian Government School of Medicine.

Cairo, Jan. 12th, 1906.

SOME EXPERIMENTS IN HYPNOSIS.

To the Editors of THE LANCET.

SIRS,—Dr. Edwin Ash's article in THE LANCET of Jan. 27th, p. 216, under the above heading is interesting in many respects but there are some items that demand criticism and others not difficult to explain. It is gratifying, however, to note that the phenomena of hypnotism are now being clinically tested by various medical men in this country and it is to be hoped that the therapeutical benefit which this so-called occult science is capable of conferring on the human subject will be more universally adopted than hitherto. There is no doubt that if stage exhibitions were prohibited by law more medical men would be willing to inquire into its nature and the manner of its use and would no longer regard it as one of the curiosities of science. Surveying briefly Dr. Ash's article I shall begin by taking the early parts of his statements. He says: "The fact that the term 'hypnosis' implies either sleep or some condition resembling sleep is likely to be a source of difficulty to the unpractised operator." This statement is correct if we limit the term hypnosis to sleep or some condition resembling sleep. Such a view, however, is entirely inaccurate. To define hypnosis as sleep or a condition resembling it is to give a narrow definition to the term and to overlook the phenomena which suggestion may bring about independently of sleep. Hypnosis may be defined as the induction of a peculiar psychical condition which increases the susceptibility to suggestion. It is true that suggestion reaches its maximum in deep sleep, but it is not absolutely necessary that sleep should occur to bring about beneficial results. Here is one of my own cases which I quote in point. A young woman, aged 19 years, was suffering from severe supraorbital neuralgia of ten days' duration. I suggest sleep; she says that she cannot sleep. I tell her, however, that sleep is not necessary to cure her; drowsiness is sufficient. She says that she feels very drowsy. It is impossible to get her beyond this stage. After three or four *séances* of drowsiness the neuralgia disappeared; she is now free from recurrence three months.

Experiments with Subject 1.—In Dr. Ash's reference here he says that catalepsy can be most readily induced by directing the subject's attention to any part by gently stroking it. Although this is true in many cases it does not occur in all. Catalepsy can be induced more readily in all subjects by fixing the attitude of the limb in the patient's brain by simply lifting the limb up and retaining it in position for a very short period. The position given to the limb by the operator is accepted by the patient's brain like an imagined suggestion. The cerebral spontaneity is more likely to be suppressed by an attitude of the limb than by stroking. In pathological conditions, owing to suppression of cerebral spontaneity, we sometimes observe this cataleptic condition, as in typhoid fever. Further on in his article Dr. Ash says: "Most authors say that drowsiness alone constitutes the first stage," and then he says, "Surely such an admission is absurd." This reasoning is neither sound nor accurate. My case of supraorbital neuralgia disproves this reasoning of absurdity. Here was a young woman cured of neuralgia although she was only a drowsy subject. Surely this is hypnotic influence although of light shade, yet it proves beneficial in some of these cases.

Experiment with Subject 6.—In allusion to this part of his article Dr. Ash says that he takes it that certain forms of headache or neuralgia can be relieved. I have had a great number of cases of headache and neuralgia which have been cured entirely by hypnosis. It is easy to understand the *rationale* of the cure in these cases. Pain makes the patient think of his trouble, and thinking of it he exaggerates it; hypnotism, which distracts his attention, acts in a contrary way upon the pain—it diminishes it by making him think no more of it.

Experiment with Subject 3.—Here was a case where there arose the difficulty of arousing the subject. This is a danger that sometimes occurs and is important to recognise. After being hypnotised some subjects preserve the disposition to go to sleep spontaneously; some are hardly awakened when they fall to sleep again in the same hypnotic sleep. In other cases they fall asleep during the day. This occurred during my early experience of hypnotism, but experience taught me that it practically need never occur if one takes care to repress this auto-hypnotisation by suggestion. It is sufficient to state to the subject during sleep that when once awakened he will be completely awake and will not be able to go to sleep again spontaneously during the day.

As to the after-effects I can only agree with Dr. Ash's experience that in no case did I notice anything which would lead me to suspect any mental condition supervening on the hypnosis. Doubtless inoffensive hallucinations provoked at long intervals, whether hypnotic or post-hypnotic, trouble the mind momentarily in the same way as do dreams, but the equilibrium is quickly re-established as soon as the hallucinatory dream has disappeared. I should not like to say, however, that in unskilful hands and that with certain delicate brains predisposed to mental alienation serious harm from inopportune and awkward hallucinating experiments could not result. I can only speak from my own experience which now totals a large number of cases in general practice.

I am, Sirs, yours faithfully,

JOHN R. O'BRIEN, M.D. Brux., L.R.C.P. Irel., &c.
North Kensington, W., Jan. 26th, 1906.

THE COLOUR OF THE HAIR IN OVARIAN DERMOIDS.

To the Editors of THE LANCET.

SIRS,—I have been for some years interested in the colour and character of the hair found in ovarian dermoids and I am anxious, with the help of the columns of THE LANCET, to collect further information on this point. The facts, as far as I have been able to collect them, suggest the generalisation that for the most part there are two colour types in the hair found in ovarian dermoids in European women, one dark and one pale, corresponding, I venture to suggest, to two primitive races, a pale northern and a dark southern race. This must not be taken too rigidly, as cases occur in which the colour of the hair is intermediate between these two extremes and from the long and intimate fusion of types we should at first sight expect this intermediate character to be the rule instead of the exception, but we must remember, on the other hand, that modern views of the continuity of the germ plasm may throw light on this point. Further, inasmuch as the follicular or germinal epithelial cells, in which dermoid structures originate, are not somatic in origin, that is, are not the direct descendants of the body epithelium of the patient or host, the frequent want of correspondence in colour between the dermoid hair and the hair of the body of the individual is what we should expect. Whereas, on the other hand, if this follicular epithelium is simply regarded as somatic in origin, and on the same level as the epithelium of the individual's skin, then the discrepancy in the result of their function is difficult to explain. I am aware that Bland-Sutton remarks on the capriciousness of the colour of dermoid hair. In spite of this statement, however, I feel sure that a larger collection of observations bearing on this easily observed and easily recorded phenomenon would be valuable, not only in filling up certain gaps in pathological knowledge, but also as bearing on the larger subject of heredity.

I venture, therefore, to appeal through your columns to medical men and veterinary surgeons in England and abroad to record in THE LANCET, or if more convenient to forward to me, information on the following points: 1. Observations on the colour of the hair in ovarian dermoids in the negro races, together with a record of the age, race, and hair type of the individual. A small portion of the dermoid hair after washing in ether, together with the hair of the individual, can be readily transmitted by post and would afford valuable information as to negro characters on microscopical examination. 2. Observations on the colour of dermoid hair and that of the individual in women of European and other races. 3. Observations (with the hair) from dermoids in elderly women, bearing on the question of the

turning grey of dermoid hair in old age, and especially records of any cases in which the hair had remained dark-coloured in a dermoid cyst while at the same time turning grey on the head of the individual. 4. Records of the colour of the hair in each cyst in cases of bilateral dermoids; I have found that the hair is sometimes of the dark type in one cyst and the light type in the other in the same patient. 5. Information from veterinary surgeons as to the colour and character of the hair and epithelial appendages found in the ovarian dermoids of animals, together with the nature and colour of the body covering. 6. The colour and character of hair found in dermoids in other organs of the body, excluding purely inclusive cysts, or "sequestration dermoids," in which the dermoid hair shares a common origin with that of the body surface.

Information bearing on these and any other points and material illustrating the observations would, I feel sure, prove of value.

I am, Sirs, yours faithfully,

Leicester, Feb. 5th, 1906. C. J. BOND.

EUCALYPTOL AND "FAINTING": A WARNING.

To the Editors of THE LANCET.

SIRS,—The powerful and sometimes alarming effect of the volatile oil of the *Eucalyptus globulus* through the olfactory nerves, directly or indirectly upon the cardiac centres or intrinsic cardiac ganglia, is not widely enough known. It is an idiosyncrasy that warrants the respect of all devout churchgoers and of those who frequent places of public assembly consumed by a blind faith in the virtues of the drug as a prophylactic against catarrh. I quote an excerpt from the graphic pen of my son, aged 13 years, now at a preparatory school. The language is expressive and emphatic and most consolatory to me, who for some time past have been somewhat uneasy as to the origin of certain mysterious "fainting" attacks in church. "To-day is glorious, sun shining, and blue sky. I am not going to church to-day as I have a cold, and also because I nearly fainted last Sunday. You see it was exactly the same time last year (the first Sunday of the term) that I really fainted. When I came into the church I smelt the same stink—is this the right expression?—namely, eucileptus—I don't know if this is how you spell it, it doesn't look right—and I can't stand it, so I sat down, so Mr. J—— told me I had better go out of church and I skitted right willingly."

My lad's idiosyncrasy is doubtless a maternal inheritance, my wife herself being absolutely unable to remain in an atmosphere impregnated with eucalyptol for more than a few moments without feeling faint, or, indeed, suffering from an alarming syncopal attack and falling to the ground unconscious—on one memorable occasion injuring her face severely in her fall. Merely passing through the eucalyptolised air of a druggist department in the "stores" or elsewhere is attended by a similar sensation. And, I may add, these attacks are genuine and devoid of "nerves," popularly so termed. My son inherits markedly his mother's physique and temperament. I pretend to no novel scientific discovery but crave desirable and necessary publicity for simple facts in the hope that they who have belief in the virtues of *Eucalyptus globulus* may at the same time temper their faith reasonably and respect the idiosyncrasies of others.

Personally I am an unbeliever, and in my practice never prescribe eucalyptol to combat the bacilli of nasal catarrh, rather pinning my faith upon a vigorous and efficacious "kerchief and nose drill"—and especially with young folk, deprecating the lazy habits of "sniffing" and avoidance of the use of the pocket-handkerchief, teaching that in the preliminary congestion of the mucous membrane of the nasal tract and the secondary copious and beneficent secretion of fluid, lie Dame Nature's efforts towards the expulsion of the distressing bacillus.

And it is well known that many drugs beside eucalyptol possess most powerful effects when inhaled, even in minute quantities. One patient needs only to walk through a ward or room in which the boards have been "beeswaxed and turpentined" to experience a copious diuresis possessing the well-known odour of "violets"; another has but to be in the immediate neighbourhood of a phial of acid. hydrocyanic. dil. when the stopper is removed to experience a most distinct sensation of "faintness." But to my medical brethren these facts are well known and I need not dilate upon them. I only desire that this knowledge should be "understanded of the people" for reasons above stated, and I beg you to publish my communication, hoping that some of the numerous Church papers will deign to notice and copy.

I am, Sirs, yours faithfully,

Woodford, Feb. 5th, 1906. HUGHES R. DAVIES.

OVERLYING.

To the Editors of THE LANCET.

SIRS,—Your leading article on this subject discusses the desirability of inflicting punishment for causing the death of a child by overlying. The result of a case tried by Mr. Justice Phillimore at Chester in July last shows that so to cause the death of a child is already a criminal offence at common law. A woman was indicted for the manslaughter of her infant child. It was proved that while she was drunk she took the child to bed with her in spite of the remonstrance of her eldest daughter. She was found asleep with her arm pressing on the face of the child, who was dead. She was found guilty and sentenced to 21 months' imprisonment with hard labour.

In his "History of the Criminal Law" Mr. Justice Stephen says: "No involuntary action, whatever effects it may produce, amounts to a crime by the law of England. I don't know that it has ever been suggested that a person who in his sleep set fire to a house or caused the death of another would be guilty of arson or murder." Until this case occurred I have never heard that a woman has been prosecuted in this country for thus causing the death of a child, though I am told that it is a criminal offence in Germany where prosecutions for it are not infrequent. There is nothing in the *Times* report of the case to show whether the offence was regarded as criminal negligence nor on what ground the verdict was obtained. In this case the overlying mother was drunk, but it is not probable that that fact makes any difference in the law applicable to the case, which proves beyond question that, in some cases at any rate, it is already at common law a criminal offence to cause the death of a child by overlying.

I am, Sirs, yours faithfully,

Wimpole-street, W., Feb. 3rd, 1906. CHARLES MERCIER.

THE ELECTION OF A DIRECT REPRESENTATIVE FOR IRELAND UPON THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—Will you allow me through your columns to thank most cordially all those who voted for me at the recent election of a Direct Representative for Ireland and all those who worked for me so energetically? The result has been my defeat by four votes in a poll of 1835, but the gratification remains to me that I have retained the confidence of so many of my professional brethren in Ireland.

I am, Sirs, yours faithfully,

Dublin, Feb. 5th, 1906. WILLIAM THOMSON.

THE LONGFORD COUNTY INFIRMARY.

To the Editors of THE LANCET.

SIRS,—With reference to the remarks of one of your correspondents in THE LANCET of Jan. 27th, p. 261, about medical and surgical appliances in Longford County Infirmary, I am authorised to state that the matron has nothing whatever to do with the ordering of the same, and that the registrar only orders them when told by the surgeon to do so.

I am, Sirs, yours faithfully,

COX GORDON,
Longford, Feb. 3rd, 1906. Assistant Registrar.

EVENING ATTENDANCE AT DISPENSARIES.

To the Editors of THE LANCET.

SIRS,—The Exeter Dispensary was established in 1818 and at present treats from 5000 to 6000 patients per annum. The inconvenience caused to some of the working classes by advice there being only available during the forenoons has suggested the advisability of opening the institution for such persons for an hour or two on two or three evenings each week. In objection to this Mr. Charles E. Bell of this city, one of our consulting surgeons,

asserts that no dispensary exists in this country where evening consultations are available. Is it not possible that Mr. Bell is in error in this impression? If so, may I ask the name of a dispensary or dispensaries where patients do receive the benefits of such charities after their ordinary working hours? As a member of the weekly board of management of the Exeter Dispensary for 30 years I crave and shall be grateful for information upon this point.

I am, Sirs, yours faithfully,

Exeter, Jan. 25th, 1906. HARRY HEMS.

*** We understand that most of the dispensaries comparable to the Exeter Dispensary in Liverpool, Manchester, Birmingham, and Leeds are closed in the evenings, save, of course, for the treatment of casualties. Certain provident dispensaries are, however, open. Our readers can perhaps give Mr. Hems fuller information.—ED. L.

ABERRANT VACCINIA.

To the Editors of THE LANCET.

SIRS,—With great interest I read Dr. M. Eden Paul's note in THE LANCET of Feb. 3rd of a case of aberrant vaccinia, more especially as I happened to see a case myself about three years ago. I was then in India in charge of a native regiment. Owing to a small outbreak of small-pox it was found necessary to vaccinate the whole of the native garrison who had not had small-pox or been recently vaccinated. Five days after this had been done a sepoy came to see me with a "sore" over the right malar bone. He was one of the recently vaccinated and the sore ran the typical course in every way of a vaccinia vesicle. With some difficulty (having warned all the sepoys against doing it) I elicited the fact that after the operation the man had attempted to allay the irritation by scratching his arm and also that he had a small abrasion on his cheek at that time. Judging from its appearance and course I have no doubt at all that the "sore" was a vaccinia vesicle. It was particularly interesting, in my opinion, from the fact that it was undoubtedly a case of auto-inoculation. This is the only occasion on which I have had an opportunity of seeing vaccination on a large scale and I should feel very interested to hear if such cases are at all common.—I am, Sirs, yours faithfully,

J. A. BARNES, M.R.C.S. Eng., L.R.C.P. Lond.

Bucklersbury, E.C., Feb. 4th, 1906.

HOME HYGIENE AND TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—The directors of St. Marylebone General Dispensary are desirous of expressing their appreciation of the importance and utility of the proposed innovation in relation to the spread of tuberculosis (a notice of which appeared in the press of Jan. 30th and THE LANCET, Feb. 3rd, p. 316) and which is about to be adopted by the committee of the Brompton Hospital in conjunction with Dr. A. Newsholme of Brighton. The "proposed innovation," however, forms a part of the generally accepted requirements for any complete scheme for the prevention of consumption and its value has long been recognised by the medical officers of the above dispensary. For a period of over three years our late senior physician, Dr. J. Edward Squire, assisted by our resident medical officer, Dr. E. B. Hulbert, with the entire concurrence and coöperation of our honorary physicians, has been actively engaged in carrying out a fairly complete scheme of visitation at the homes of consumptive patients. The object has been to see that proper precautions are taken to prevent the spread of the disease, to recommend sanitary and hygienic requirements for diminishing predisposition in those closely associated with the consumptive, and to advise other members of the family or inmates of the house to attend at the dispensary for examination for early detection of any commencing disease and for proper preventive treatment.

The number of old-standing and recent cases thus dealt with in the three years the system has been in operation exceeds 200. In over 160 of these voluntary notification was made to the medical officer of health of St. Marylebone, and a secondary notification to that official when subsequently any of these patients either changed their residence, died, or removed to hospital or infirmary. Cards of "advice to consumptives" are freely distributed; clinical histories are taken in all cases with special reference to relatives, domicile (including other residents in tenement houses), intimate friends, or fellow workers. Disinfection of premises on death or removal is advised and arranged for, and all sufferers and suspects are urged to (and do) attend at the dispensary at frequent intervals for examination and treatment; care is taken to keep in touch with them, even to following up many who have drifted into our Marylebone Infirmary or Mount Vernon Hospital. The results obtained have more than compensated for the labour incurred, and did space permit many instances of direct value in appreciation of such a scheme could be quoted, but as the results and details of this investigation will, no doubt, shortly be made public, it is hardly necessary to press the point further in this letter.

My board of directors, however, feel strongly that should any scheme as that now to be taken in hand by the Brompton Hospital be entered upon it should be applied to London as a whole, when it would without doubt prove of great and immediate value to the public health. In this connexion they would point out that what could be undertaken in this dispensary with so much success and encouragement could doubtless be also undertaken by the numerous local public or "general dispensaries," many of them, as in our case, holding an honourable record of over a century's work. These dispensaries, equipped for the treatment of patients either at the institution or at their own homes, possess a knowledge of the environment of the sick—an advantage which the general hospital and other forms of medical charities cannot possibly acquire.

My directors cannot but regret that notwithstanding the undoubted value of the work of "general dispensaries" and the facilities they have for active coöperation in the prevention and cure of disease their importance in that field of labour should be so underrated (even to the exclusion from the benefits of the King Edward's Hospital Fund). As a consequence, after the provision of necessary funds for every-day maintenance there is little left for clinical research or general aid in the vital work of preserving the public health, but there is little doubt that the staffs of these general dispensaries are as actively alive to matters affecting the public interest and welfare as those attached to the better-known and larger institutions, and where funds permit the general dispensaries are not found behindhand in up to-date and progressive treatment.

I am, Sirs, yours faithfully,

FRANK STOKES, Secretary.

St. Marylebone General Dispensary, Feb. 6th, 1906.

HYGIENE OF COTTAGES IN AGRICULTURAL DISTRICTS.

To the Editors of THE LANCET.

SIRS,—As one now residing in the eastern counties I can fully endorse the statements in the letter quoted by you in the course of your article on this subject which appeared in THE LANCET of Jan. 27th, p. 248. There are, however, two points to which I should like to draw your attention: one is the prevalence of pulmonary tuberculosis as a result of families occupying badly ventilated cottages previously occupied by those in all stages of the disease, the other is the obvious connexion between the state of the labourer's cottage and the high rate of illegitimacy in those districts in which the cottage accommodation leaves much to be desired. For every 1000 births registered in the county of Norfolk 74 are illegitimate, in Herefordshire 85, and in Shropshire 80, all of which counties are great agricultural centres. In comparison Middlesex has 34, whilst such great industrial counties as Durham, Derby, and Lancashire average but 41. It is a well-known fact that the farm labourer in Scotland is very poorly housed and in one rural district in that country the percentage of illegitimate children is 18·4. From these figures it can be seen that the proportion is very much higher in agricultural districts. That the sleeping accommodation is bad will not alone give us the explanation; most of the mothers are quite young girls and there can be no doubt that it is the want of proper dwelling rooms that is the chief factor in causing such girls to prefer being out and about rather than herd together with their little brothers and sisters at home. As a result of deficient sleeping room children are brought up to disregard those rules which decorum demands and are invariably the ones from whom the next generation of illegitimate children are born. I need not dwell upon the results of this deplorable amount of

illegitimacy; our county asylums and our criminal records speak only too clearly for themselves, but it is worthy of note that such diseases as tubercle and rheumatism are not the only results of the badly housed labourer.

What is to be the means of preventing or putting right this state of things? First, we must seek the cause; this is, as a rule, very simple; 99 per cent. of the worst class of houses belong to the *small* man, the village landlord; those who live in rural districts know how tumble-down cottages are bought up as investments, patched together, and let to the poor. Compare the cottages on a properly conducted estate under a capable agent. The chief cause of badly constructed, badly kept cottages is the fact that such cottages belong to some man who demands a certain sum every week from his tenant and who generally sees that he gets it, whatever the condition of the cottage may be. Local government is useless as a means of inspecting and condemning such cottages. It is not unknown for an owner of the disgraceful cottages to be a member of such a council, and it is obvious that if any legislation can benefit this matter of national importance it must come from a higher place than a parish council. This question of our labourers' cottages is one that should be looked into in the near future, not only as a means of checking the spread of all kinds of disease, but also to prevent our agricultural districts from being inhabited by future generations of illegitimate children.

I am, Sirs, yours faithfully,

SUFFOLK POOR-LAW MEDICAL OFFICER.

Feb. 5th, 1906.

THE HEALTH OF MADEIRA.

To the Editors of THE LANCET.

SIRS,—On Nov. 27th last the wife of a barber in this city was said to be suffering from an "infectious fever." No more definite diagnosis being offered she was hurried with her family, servants included, to be interned in the lazaretto. Rapidly after this others were daily taken: sometimes a single individual, at others whole families. On arrival at the lazaretto all were stripped and their clothing taken from them. Women and young girls, naked save for a sort of chemise, which began tardily and ended much too abruptly, were disinfected with some fluid poured on them from a watering-can with a rose to it, as they stood up. They were then made to lie down and were covered with a sheet which was also well watered from the can, and then the bed itself was freely sprinkled. They were left in this moist condition to their own devices. This process was repeated twice more in the day. You will no doubt be astonished to learn this body disinfection was carried out in all its details by a—policeman! The services of nurses from the sisterhoods here were freely offered but declined.

On Nov. 30th the local papers announced that the patients mentioned above—more of the family had sickened in the interval—were doing well. On Dec. 1st the barber's wife died. If she were treated on the lines indicated above is it to be wondered at, whatever may have been the complaint from which she suffered? Rumours of plague began to circulate but the subject was always discussed with bated breath. The health officers contented themselves with announcing that although there existed amongst us a few cases of "infectious fever" the health and sanitary condition of the city and port were good. People suddenly were perplexed and alarmed when they found friends who had been ill for some time with known diseases hurried to the lazaretto without any fresh symptom. One with a chronic ulcer of the leg—a diabetic—went in and quickly died there. Others were known to be suffering from rheumatism, influenza, and simple pneumonia. Even a poor but harmless lunatic was carted off and detained until his habits, which were indecent, and his language, which was unparliamentary, gained for him his liberty, for in spite of the "plague" they turned him out to spread it. Nobody believed in the "plague" but an interested few.

Things went on in this unsatisfactory way until about the beginning of January, when two soldiers, from curiosity it is supposed, strayed into the grounds of the lazaretto. After being discovered they were detained, stripped, and well watered. Soon they managed to get a note conveyed to the barracks asking their comrades to come and release them. Accordingly, on Sunday, Jan. 7th, about a hundred soldiers assembled, and, dividing themselves into two parties, marched to the relief of their friends. With the soldiers, however, went about a thousand other folks. The soldiers found their naked comrades, enveloped them in sheets, and carried them in triumph to the barracks. Meanwhile the people made good use of their time, they broke doors and windows, smashed all the medical outfit they could find, and rendered the place uninhabitable for some time to come. All the patients were hastily wrapped in sheets and, almost naked as they were, were carried to their homes. One poor woman (who had been interned with her supposed plague stricken husband) had only been confined two days and was, with her naked little baby, enveloped in a sheet and a hastily borrowed petticoat, whilst her husband was adorned with another man's trousers. All reached home safely, where they have remained undisturbed. Strange to say, none of them has died. Naturally, the hatred of the people has fallen most heavily on the doctor in charge of the lazaretto, who is also the official bacteriologist, and he has been compelled to seek refuge on the cruiser *Don Carlos*. In spite of this supposed epidemic the death-rate in this city of 40 000 inhabitants is only two in excess (for the months of November and December) of the corresponding months of the previous year. As a matter of absolute fact, the health of Madeira has never been better for some years. The people of Madeira are exceedingly patient, but they have been roused; yet no one need stay away from fear of plague or molestation.

During all this time the consuls have been allowed to issue clean bills of health to ships calling at our port, which if an epidemic really existed is a very grave act of dishonesty and liable to lead to disastrous results. The whole business is a disgrace to those concerned, as it has entailed unmerited suspicion on the sanitary condition of our island and caused great loss of trade to the merchants, hotel-keepers, and others in a more humble sphere who depend for their livelihood on the influx of visitors.

I am, Sirs, yours faithfully,

Funchal, Madeira, Jan. 22nd, 1906. B. R. C.

*** A brief note from Mr. Geddes Scott referred to some of these circumstances in our columns last week.—ED. L.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE principal, Sir Oliver Lodge, is still away but good accounts have been received of his progress towards complete recovery and it is hoped that he may be able to be present at the annual meeting of the court of governors on Feb. 21st.—Professor Watts, the assistant professor of geology, has been elected to an appointment in the Royal College of Science, London; therefore at the end of this term the University will lose a valued member of its staff who is distinguished alike both for teaching and for the excellence of his researches. This is the fifth appointment in other institutions which has fallen to members of the University staff during the last five years.—The University library has just received a splendid gift of 3000 valuable books from Mr. Thomas Corbett of Impney. At present the library is growing rapidly and additional accommodation will soon be needed unless the plan of breaking up the main library into departmental sections, which has been necessitated by the erection of the new buildings at Bournebrook, is further developed. From a medical point of view the University library is by no means complete, but it is rumoured that negotiations are on foot with the object of making the libraries of the University and the Medical Institute available for members of both institutions.—Mr. Cope, the chief librarian of the University, has just completed his twenty-fifth year of service and the event was celebrated by the members of the University staff presenting to Mr. Cope a clock and a cheque as a token of their appreciation of his untiring energy and enthusiasm in the cause of the library and his unfailing courtesy to those who make use of it.

Local Charities.

Probate has been granted in the will of the late Mr. John Feeney and it appears that at some period, not less than five years hence, the General Hospital will receive £10,000 from the executors, whilst the Queen's Hospital, the General Dispensary, the Eye Hospital, the Children's Hospital, the Blind Asylum, the Wolverhampton Hospital Infirmary, and

the Coventry Hospital will each receive £1000.—The late Mr. Thomas Mabbut of Edgbaston has left £1250 to the General Hospital for the purpose of endowing a bed to be called "The Thomas Mabbut Bed," and he has devised £100 each to the Queen's Hospital, the Children's Hospital, the Deaf and Dumb Hospital, the Blind Asylum, the Ear and Throat Hospital, the Skin and Lock Hospital, the General Dispensary, and the Orthopædic Hospital.—There has been some difficulty about a sum of £20,000 left by a lady to the Birmingham and Midland Hospital for Women "towards the rebuilding and equipment, to the satisfaction and under the control of my executors," but the ruling of Mr. Justice Kekewich has made the matter clear and the hospital will no doubt profit by the sum which the testatrix obviously intended should be devoted to its interests.—The annual reports of some of the medical charitable institutions in the adjacent towns show that admirable work is being done in the district. The Wolverhampton Hospital Sunday committee reports the collection of £632, as contrasted with £614 in the previous year, and it has allocated the money to the local hospitals. The Worcester Ophthalmic Hospital reports increased work, increased income, and reduced expenditure for the past year. The report of the Bromsgrove Cottage Hospital is less satisfactory, inasmuch as the expenditure exceeded the income, but it shows a large amount of work well done. During the year 208 patients were treated, of which 185 were cured, ten relieved, one unrelieved, three died, and nine remained under treatment.

Decrease of the Birth-rate and Death-rate.

For a number of years the general birth-rate of Birmingham has been falling and the medical officer of health in his last quarterly report points out that the number of births in the last quarter of 1905 is the lowest on record in that period, the number of births being 3648, as contrasted with 4017 and 4078 in the same quarters of the two preceding years. On the other hand, the mortality-rate of the city was 16·3 per 1000, which is the lowest record for the last quarter of the year. I sent you these figures last week and should now like to add that a very interesting and satisfactory feature is the lowness of the death-rate in All Saints, Bordesley, Balsall Heath, and Saltley wards which are largely populated by artisans. In these wards the death-rate varied from 12·8 to 14·2 per 1000. A still more satisfactory feature of the report is the comparatively low infant mortality-rate in many of the wards occupied by the artisan classes.

Chain-making and Physical Deterioration.

The question of physical deterioration due to the conditions existing in the chain-making industry is one of considerable importance in this district and it is distinctly reassuring to find, after the definitely expressed opinions to the contrary, that the making of small chains at all events is a healthy occupation. At least, this is the conclusion that Mr. J. H. Wilkinson, the medical officer of Dudley, has arrived at after a careful inspection of a number of chain-making shops in the Netherton district. He is convinced, apparently, that there is no physical degeneration as a result of the work.

The Birmingham Anti-Corset League.

In common with some other towns Birmingham possesses a society which devotes itself to persuading the female portion of the community that they are doing great injury to themselves by wearing the very universally adopted corset. The members of the society are enthusiastic; they elaborate and demonstrate their views on all favourable occasions and in a little over two years they have increased their members to 90, two-thirds of the whole being ladies. They congratulate themselves on an increasing demand for reformed dress outfits, yet it is obvious that their millennium is still far distant, for, in spite of lectures which demonstrate the distortion and displacement of internal organs and the interference with organic functions caused by badly fitting or too tight corsets, women see that women, on the whole, are as healthy as men and that they walk more gracefully and look much prettier than men who, presumably, do not wear corsets. Moreover, and this is, perhaps, the greatest stumbling-block in the path of the Anti-Corset Leaguers, it must be admitted that women who wear corsets look "smarter" than the majority of women who wear reformed dress and, as the records of Egyptian tombs show, it has been woman's desire for many thousands of years to look "smart."

The Warley Woods.

We have practically reached the realisation of the endeavour to secure this desirable breathing space for the city. The voluntary committee formed for the purpose of acquiring the ground evidently arrived at the conclusion that it could not itself get the £28,000 which was required to complete the purchase. In these circumstances it offered the 26 acres of land it had already purchased and somewhat less than £15,000 which it had collected to the city on condition that the city would purchase the additional 94 acres of land over which it had acquired the option of purchase. The general purposes committee of the council has considered the matter and will recommend the council to accept the offer, which is made through Mr. A. M. Chance, and to instruct the finance committee to borrow the sum of £28,000. In all probability the council, acting with its usual foresight and wisdom in such matters, will accept the recommendation and take the necessary steps. It is true that other districts nearer the Woods will profit by such a broadminded action, whilst they have shown but little alacrity to bear what may be considered a fair share of the expense, but after all those districts will eventually be part of the city.

Feb. 6th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Royal Infirmary: Grant of a Royal Charter, The Need of a New Out-patient Department.

THE annual meeting of the trustees of the Royal Infirmary was held on Jan. 25th in the board room of the institution, Mr. Robert Gladstone, the president, being in the chair. Mr. Ralph Brocklebank, the honorary treasurer, in submitting the financial statement, alluded to the grant of a Royal charter which His Majesty confirmed by letters patent on August 28th last. The committee was of opinion that the objects of the infirmary would be more effectively attained and a larger measure of public support given to it in the future if a Royal charter of incorporation were obtained. Difficulties had arisen in the management of the property by reason of it being vested in the hands of a changing body of trustees which, by the charter, have been overcome. The laws and rules for the management which existed remain practically the same, the powers of the trustees in that respect not being abridged. The out-patient department has for some time proved insufficient for the constantly increasing demands on it. This is convincingly demonstrated by last year's figures, 89,224 attendances being recorded, an increase on the previous year of 13,256. Plans and schemes for its enlargement have been under constant consideration during the year. Many questions have had to be faced which, it is hoped, are in course of being solved, so that the committee will shortly be in a position to lay before the public propositions which will commend themselves as being all that is desired to bring this most essential department up to what is so urgently needed. A sum of £3700 has been received from the Sir William Mitchell Banks Memorial Fund which it was agreed should be applied to this object. Three beds have been endowed during the year—two by the trustees of the late Henry Bloom Noble of Douglas, Isle of Man; and one in memory of the late Miss Elizabeth Earle, by her brother, Mr. Arthur Earle. Also, through the generosity of Mr. E. R. Bickersteth, consulting surgeon to the infirmary, the upper part of old Dover-street, opposite the nurses' home, has been laid out as a recreation ground for the nurses. The "free" receipts have been £12,650 and the expenditure £16,019. The adverse balance is £3279. A large adverse balance stands against the convalescent patients' fund and the committee appeals for help for this most useful fund. The President, in moving the adoption of the report, said that he would be very sorry to see the maintenance of such institutions as the Royal Infirmary transferred to the rates or made part of the public expenditure of the country. During the past year a very interesting event had taken place in connexion with the University of Liverpool. A deputation from the University waited upon the committee of the Royal Infirmary and suggested that a joint committee should be appointed of the University and the infirmary with the view of enabling the holders of the professorships of medicine and surgery in the University to have charge of

wards or beds in the infirmary. A joint committee was accordingly appointed and the report which it had adopted was now under consideration by the authorities. The movement emanated from the University and it would be the desire of the trustees of the Royal Infirmary, he felt sure, to further any movement of the kind which would be in the best interests both of the University and the Royal Infirmary. He would also remind the trustees that the University really owed its origin to the Royal Infirmary. Mr. Edward Kewley, the chairman of the committee, in seconding the adoption of the report, congratulated Sir James Barr, the senior physician, on the knighthood conferred upon him, an honour which they all appreciated very much.

The Infirmary for Children: Progress of the New Building.

At the annual meeting of the subscribers to this institution held on Jan. 31st the report of the committee stated that the erection of the administrative block and the east pavilion, at a cost of £25,000, was progressing satisfactorily and that there was every reason to believe that they would be completed in the autumn. But to fit them for the accommodation of patients it was necessary that further sections of the scheme should be proceeded with and in June last the committee gave instructions for the erection of the observation block and a portion of the laundry, at a cost of £5000, which, with the £25,000 already mentioned, would practically exhaust the balance which the treasurer had in hand. It seemed an astonishing fact that in a city which was conspicuous for its splendid charitable institutions and hospitals, when they came to plead the cause of the children they should meet with such little response. They had collected £49,000 towards the new building and of that sum £30,000 had been subscribed by 30 individuals or firms. The remaining £19,000 had been subscribed by some 400 contributors, so that it will be seen that a much more general response on the part of the public is to be looked for, an additional sum of £20,000 being required to complete the scheme. The committee appeals for corporate help, which on a former occasion met with an unfavourable response.

Examination for the Indian Medical Service.

At the recent examination of candidates for the Indian Medical Service Mr. Harry W. Pierpoint, F.R.C.S. Eng., a student of the University of Liverpool and the Liverpool Royal Infirmary, obtained first place with an aggregate of 3761 marks, thus creating a record in obtaining a higher number of marks than have ever been gained in this examination. This is particularly gratifying to the members of the University and the Royal Infirmary where, needless to state, Mr. Pierpoint was noted for his industry. He has held several minor appointments at the Royal Infirmary.

Liverpool Chamber of Commerce and Malaria.

A letter has been received from Mr. John Holt, the vice-chairman of the African trade section of the Chamber of Commerce, calling attention to the serious loss of life among the crews of the tugs which towed the floating dock *Sir Alfred* to Forcados, and suggesting that the Chamber of Commerce should ask the Board of Trade to compel all vessels visiting the tropics to adopt such special means as may be suggested by the best scientific authorities, with a view to the prevention of tropical diseases on board in the interests of their crews. The committee came to no conclusion in the matter but agreed to reconsider it with a view of making some suggestions to the Board of Trade.

The Unemployed Problem in Birkenhead: General Decrease in Workhouse Statistics.

At the fortnightly meeting of the Birkenhead guardians held on Jan. 30th the chairman of the finance committee stated that the population of the workhouse at present was 946, as compared with 959 at the same period of last year. In the past fortnight outdoor relief had been given to 1638 persons, as against 1649 12 months ago, and in the "scattered homes" there were 124 children, a decrease of 17, as compared with the corresponding date of 1905. From this it would seem that there was a general decrease in all departments. This had been going on steadily for several months and it was thought a very welcome sign of the times.

Ptomaine Poisoning from Potted Meat.

A considerable number of serious cases of ptomaine poisoning, said to be due to the consumption of a tainted article of food, have occurred at Accrington. So far over a score of sufferers, all residing in the Woodnook district, have been medically treated, some of the cases being of a dangerous character, though it is hoped all will recover. In at least two instances whole households are affected. In one family three members were seized with illness, while two escaped. The medical officer of health (Dr. A. Greenhalgh) seized a quantity of suspected potted meat and this, on being analysed, was declared to be responsible for the wholesale poisoning. The source of supply was at once stopped.

Feb. 6th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The Sale of Poisons.

As a consequence of the success of the appeal in the case of the sale of Rankin's ointment, which was commented on in this column on Jan. 6th and in which it will be remembered that the conviction by the stipendiary magistrate was not sustained, a number of informations laid against druggists in respect of the sale of poisons were dismissed by the same magistrate. The stipendiary, without criticising the decision of the higher court, called attention to the great importance of the decision. He said that not a few coroners, magistrates, and officers of police who were daily confronted with the difficulties that arose in cases of poisoning had for long been anxious to secure further restrictions in the sale of poisons. Their anxiety would not be lessened by the knowledge that compounds containing fatal doses of strychnine and other dangerous agents may be purchased from registered druggists indiscriminately by strangers without inquiry or record—that is to say, if the compound had been sold in good faith as a vermin-killer—however mischievous might be the real object of the purchaser. One cannot but agree with the remarks of the learned stipendiary, for the facilities for obtaining large quantities of poisons and deleterious drugs in this country appear to be very great.

Sale of Margarine as Fresh Butter.

A "butter dealer" was charged at Skipton with selling margarine as fresh butter. The market price of fresh butter at Skipton was 1*s* 4*d*. and that of the commodity offered for sale by the accused was 1*s*. The basket of the defendant was found to contain paper wrappers on which was printed the word margarine but the basket itself was not so labeled as is required by law, and ordinary white paper, such as is used for wrapping up fresh butter, was used in the case of the upper layers of margarine. It is satisfactory to note that a fine of 40*s*. and costs was imposed and that an application for time in which to pay was refused.

Hospital for Women and Children.

The fifty-third annual report was presented at the meeting of the subscribers of this charity which was held on Jan. 25th. The report dealt with a period of 12 months, during which the whole of the new hospital was available for work, and as might have been expected the increase in the amount of work accomplished was seen to be considerable. The total number of in-patients in 1901, when the work was being carried on in the old institution, was 393; in 1904, when the new hospital was being used during a part of the year, it rose to 577, and in the year just closed it reached 727. This number was made up of 535 patients suffering from affections peculiar to women, of 77 maternity cases, and of 115 children. A similar but perhaps less striking increase was seen in the figures dealing with out-patients. The average number of beds occupied was 47. To the great regret of all connected with the hospital Mr. Charles J. Wright, professor of midwifery at the University, who has been surgeon to the institution for many years, has tendered his resignation, and in accepting this the committee reported that it desired to place on record its very high appreciation of the value of his services over the long period of nearly 22 years, not only as a member of the surgical staff but as one of the governing body. In harmony with the rules of the institution, Professor Wright retains the right to use two beds in the hospital. This admirable rule, which is framed on the same lines as the rules which regulate the status of the consulting staff at the infirmary, secures for the institutions of Leeds the services during their partial retirement of men who have gained their experience

during many years of service. Instead of maintaining the number of the members of the full staff at three it is intended to appoint an assistant surgeon whose duties will be entirely confined to the women's department, and he will act as assistant to, and deputy for, the surgeons and see a certain proportion of the out patients. As the result of some recent changes the out-patient department for children has been put under the care of an assistant physician and an assistant surgeon and although these two officers have no official charge of in-patients they are allowed, by courtesy of the surgeons, to use the five cots in the hospital for the admission of cases of special interest. As might have been expected, the amount of work done under these new conditions in the department for children has materially increased. The in-patients, who numbered 38 in 1901, were 79 in 1904, and reached a total of 115 in the past year. The out-patients in 1901 were 1586, in 1904 they were 2570, and in 1905 they numbered 2580; while for the same three years the numbers of attendances for the same class of patients were respectively, 6186, 9399, and 13,774. In considering these figures with reference to the population of Leeds it must not be lost sight of that the number of women and children attended to at the infirmary is very large. From last year's report one sees that of the *new* patients 16,123 were women (exclusive of the maternity department) and 13,362 were children under 13 years of age, while no fewer than 1408 children under the age of 13 years were treated in the special wards of the institution devoted to that purpose.

Appointments at the Infirmary and at the Public Dispensary.

Mr. Harold Collinson, M.B., B.S. Lond., F.R.C.S., has been appointed one of the honorary anæsthetists at the Infirmary. Mr. G. L. Walker, M.B., B.Ch. Leeds, has been appointed house physician to Dr. T. W. Griffith; and Mr. R. G. Dixon, M.B., B.Ch. Leeds, for a further period of six months, house surgeon in the eye and ear department. At the Public Dispensary Miss Amelia Satcliffe, M.B., Ch.B. Edin., has been appointed honorary clinical assistant to Dr. J. Gordon Sharp.

Feb. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Appointment of the Professor of Medical Jurisprudence in the University of Edinburgh.

THE King has appointed, on the recommendation of the Secretary for Scotland, Mr. H. Harvey Littlejohn, M.A., M.B., B.Sc. Edin., F.R.C.S. Edin., F.R.S. Edin., to the chair of medical jurisprudence, vacant by the resignation of Sir Henry D. Littlejohn. The son succeeds the father—a rare and an interesting occurrence. Reference has already been made to the training and experience of the two candidates for the vacant chair, so no further reference need be made to these now. The new professor submitted testimonials from a number of continental professors of forensic medicine as well as from several in England and Scotland. He also presented a letter signed by many of his colleagues in Edinburgh very warmly commending him to the chair. There is no doubt that there is every prospect that the appointment will prove a popular one, while the University obtains a good teacher. The new professor is 44 years of age, so that there is the promise of many years of usefulness in front of him.

The Organisation of Edinburgh Charities.

For some time past a committee has been considering the means by which the numerous charities in Edinburgh might be organised. The appointment of the committee was the result of a growing feeling that the charities in Edinburgh were overlapping and that there was not that careful inquiry which was desirable before help was given to people. It was, however, the overlapping of charities which was most exercising the minds of the philanthropic. The committee has issued its report and has been largely guided by the advice given to it by Mr. C. S. Loch of the London Charity Organisation Society. The scheme need not be dwelt upon here, but it appears that a sum of £1500 a year will be required for administrative purposes. In a scheme the working of which is to cost so much the question is always asked, Is the cure worth the money? Is there £1500 a year of overlapping? That all private charity will be transferred to the hands of a central organisation is a mere dream, nor is it desirable it should ever attain realisation. Much of the most valuable and admirable charity has as its greatest characteristic that it savours not of what it is and that it neither publicly exalts the giver nor debases the receiver. Even in a city of small compass like Edinburgh the questions of destitution, poverty, want of employment, and unwillingness to work bristle with difficulties.

A Motor Ambulance for Edinburgh.

I am pleased to see that it is proposed to obtain a motor ambulance for the conveyance of patients to the City Hospital. The hospital is quite outside the city and the mere distance is an important factor in the transit of patients severely ill. A motor ambulance will practically abolish the distance. It is to be hoped that the new ambulance, when it is got, will be furnished with the best pneumatic tyres so that the jolting and discomfort of the ordinary horse ambulance will soon be regarded as a historical atrocity.

University of Aberdeen Edinburgh Association.

This association has just held its twenty-second annual dinner. The guest of the evening was Mr. N. J. D. Kennedy, Professor of Law, University of Aberdeen, and in replying to the toast of his health he said things which are applicable to the Faculties of Medicine in Scotland and might with advantage be acted upon. Speaking of Aberdeen he said whatever they had done in the past for the building up of the British empire and of the empire of intellect they could not afford to rest on their oars. Even in England the people were beginning to awake to the fact that science of every kind was not a thing to be studied merely in darkened rooms but to be brought out to mingle in every department of life; that, in fact, there was no calling or trade that was not the better for having brains mixed with it. Science was simply systematising of experience and knowledge, the arranging of the ladder from the lower and simpler truths in every part of nature to the higher and more complex. The business of the University was partly research, but it was mainly teaching, and they were awaking, perhaps because Germany had cast a light on their eyes, to the fact that all true teaching was forming the mind, giving it the power of assimilating and applying knowledge to the actual facts in life. He hoped the time was coming, perhaps soon, when the university would be brought into real touch with every department of national life, and particularly into touch with every other department, from the lowest to the highest, of public education. The academic forces were not less valuable to the Empire than the Imperial forces. He thought that professors nowadays did not show so much of that stagnant self-content which perhaps characterised some of the chairs in former days. It was recognised more fully that the university existed for the students and the nation and not the nation and the students for the university. Even in medicine there is room for the true teaching here indicated, when both teacher and student in much of their work would be more concerned with the forming of the mind than of stuffing it with innumerable facts and burdensome minutiæ.

Quatercentenary of the University of Aberdeen.

The general quatercentenary committee has approved provisionally of the following tentative programme for the week of celebrations in next September:—

Monday, Sept. 17th.—Delegates and guests arrive in Aberdeen.

Tuesday, Sept. 18th.—10.45 A.M.: Service in University Chapel, King's College (limit, 600). 12.30 P.M.: Luncheon to delegates and guests by the University authorities (limited to 450 if the Mitchell Hall be used). 2.30 P.M.: Procession of University authorities, students, delegates, guests, from Marischal College to the music hall. 3 P.M.: Reception of delegates and presentation of addresses in the music hall (limit, 2500). 9 P.M.: Conversazione given by the University authorities in the Mitchell Hall and University Buildings, Marischal College (about 2500 could be entertained). Theatricals or tableaux or concerts could be given by the students in the side rooms and dancing might be allowed in the old library hall.

Wednesday, Sept. 19th.—A general holiday in Aberdeen. Reception of the King by the corporation at Holburn-street Station. Procession to the Town House. Private luncheon to the King by the corporation. Formal inauguration of the new buildings, Marischal College, by the King. Corporation banquet in the evening to about 650 guests in the music hall. General illumination of the city. 9 P.M.: Students torchlight procession.

Thursday, Sept. 20th.—11 A.M.: Conferring of degrees, Mitchell Hall. (Capacity about 1050 persons.) Luncheons by societies (Medico-Chirurgical, Advocates, &c.). 3 P.M.: Reception at King's College. Tea in the library or in a marquee on the recreation ground. Inter-

University sports. 9 P.M.: Students' ball in the music hall. 9.30 P.M.: Reception in art gallery by the President and members of the committee of the art gallery (capacity 2000).

Friday, Sept. 21st.—Excursions within and without the city. Arrangements would be made for a special train to Ballater and luncheon would be provided at the cost of the University for delegates and guests who desired to avail themselves of this excursion for seeing Deeside. 9 P.M.: Students' symposium and addresses to the students by distinguished guests in the music hall.

Saturday, Sept. 22nd.—Delegates and guests leave Aberdeen.

The general committee, which numbers about 50, has delegated the completion and carrying out of the arrangements to a small executive committee of ten, to be known as the "conveners' committee," and to consist of the Principal, convener; the Lord Rector's assessor, Mr. J. E. Crombie, vice-convener; the Lord Provost; the convener of the finance committee, Professor Hay; the convener of the hospitality committee, Mr. James Murray, Glenburnie Park; the convener of the publications' committee, Mr. P. J. Anderson; the convener of the general council committee, Mr. Patrick Cooper; the town council's assessor, Mr. Alexander Wilson; the President of the S.R.C., Mr. A. R. Williamson; and Professor Davidson.

Feb. 6th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Direct Representation of Ireland on the General Medical Council.

THE election of a Direct Representative of the medical practitioners of Ireland took place recently on the conclusion of Sir William Thomson's second term of office when he offered himself for re-election. Dr. Leonard Kidd of Enniskillen, late President of the Irish Medical Association, came forward and after an exhaustive poll was returned by a very narrow majority.

Presentation to Dr. James Craig.

A special meeting of the Royal College of Physicians of Ireland was convened on Feb. 2nd in order to afford the President and Fellows of the College an opportunity of offering their congratulations and making a presentation to Dr. James Craig, Fellow and Registrar, on the occasion of his approaching marriage. The President, Sir William Smyly, referred to the signal services which Dr. Craig had rendered to the College during his long term as registrar and concluded by presenting him with a cabinet of silver plate and an album containing the photographs of the Fellows of the College.

Forster Green Hospital, Belfast.

At the annual meeting of the friends of the Forster Green Hospital for Consumption and Chest Diseases, held in Belfast on Jan. 30th, it was reported that 180 intern patients had been treated during the year 1905, while in the extern department there had been 1417 attendances, of which 525 were new cases. The income for the year has been sufficient to meet the expenditure owing to a special subscription; but the deficiency in the previous two years still leaves a balance upon the wrong side amounting to £241. Special reference was made to the loss sustained by the institution in the death of Dr. H. S. Purdon who was consulting physician.

Newtownards Nursing Society.

The Marchioness of Londonderry, who presided on Jan. 30th at the annual meeting of the Newtownards Nursing Society, in moving the adoption of the report, gave an interesting address on the objects and aims of district nursing. She referred specially to the importance of proper obstetric nursing conducted on modern scientific lines.

Health of Belfast.

The report as to the health of Belfast from Dec. 17th, 1905, to Jan. 20th, 1906, presented to the corporation of Belfast on Feb. 1st showed that the outbreak of scarlet fever still continues (131 cases having been notified), although owing to the mild type of the disease the deaths are few. Typhoid fever (99 cases were notified) is also more prevalent, though the deaths from this disease are less. It is peculiar to find that there were six cases of typhus fever notified; five, however, occurred in one house, no cause for the outbreak being discovered. The total death-rate was 19·9, that for children under one year old was 4·1, and that for persons of 60 years and upwards was 4·3 per 1000 of the population.

Rainfall in January.

During the month of January rain fell in the neighbourhood of Belfast on 28 days to the amount of 4·72 inches, which is above the average, 3·44 inches. Last year in the same month 2·61 inches fell. The weather throughout the month was of a depressing nature and it was the wettest January since 1903.

Feb. 6th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Perforating Ulcer of the Stomach.

ON Jan. 10th, at a meeting of the Surgical Society, M. Bazy read, for M. Lapeyre, an account of two cases of perforating ulcer of the stomach treated by laparotomy and suture. In the first case the ulcer was situated on the lesser curvature and 53 hours elapsed between the occurrence of perforation and the operation. The patient was suffering from acute general peritonitis and died seven days after operation. The second case was that of a young woman in whom as the result of a perforating gastric ulcer, situated on the anterior face of the stomach, a gastric fistula occurred. M. Lapeyre excised the fistula and sutured the wound in the stomach. The operation was easy and the patient recovered completely but she died eight months later from acute pulmonary tuberculosis.

Chloride of Calcium as a Hæmostatic.

The hæmostatic action of chloride of calcium is capable of being turned to good use in general surgery. M. Toubert, at a meeting of the Surgical Society held on Jan. 17th, gave sundry examples of this from his personal experience. He is in the habit of giving to his hospital patients a draught containing three grammes of calcium chloride to be taken in two or three doses, the last dose to be given an hour or two before the operation. He has used this plan in circumcision, radical cure of hernia, hydrocele or varicocele, removal of the appendix *à froid*, suture of bones, tenotomies, removal of adenoids, and other operations. In all these the hæmorrhage either stopped almost at once or within a little time. M. Toubert considers chloride of calcium preferable as a hæmostatic by reason of its quick action, its non-poisonous nature, and the ease with which it is employed to all drugs which are used by being applied to the wound or administered by injection or by the mouth.

The Treatment of Hydatid Cysts of the Liver.

At the same meeting M. Canut stated that the best means of treating hydatid cysts which could not be extirpated was to incise the cyst, to remove the lining membrane, and to sew up the wound. Direct union is very rare and generally the sac fills up with an aseptic serous exudation within the first few days after the operation. This, however, is soon reabsorbed. Sometimes the sac fills with bile which may not be aseptic and the sac may rupture where it is sutured. With a view to avoid any infection of the peritoneum M. Quénu said that a drain should be placed in the suture. M. Canut said that sometimes after the sac was emptied and the membrane was removed brown spots or stains could be seen on the sac wall. In this case the cavity should not be sutured, for these spots consisted of superficial biliary canals which always secreted bile. M. Tuffier agreed with this advice.

Paralysis of the Forearm treated successfully by Operation.

At the same meeting M. Potherat showed a patient on whom he had operated. After a fall on the elbow the patient developed complete paralysis of the region supplied by the ulnar nerve and the branches of the musculo-spiral nerve below the elbow. At the operation both the ulnar and the musculo-spiral nerves were found to be caught in a large bony mass lying over the condylar region. M. Potherat freed the ulnar nerve, which was completely divided; he then refreshed the ends and sutured them. By the evening of the operation not only had sensibility returned in the hand but the paralysis in the region supplied by the musculo-spiral nerve (*paralysie radiale*) had completely disappeared. M. Potherat added that he was content just to place these facts on record without trying to explain them.

Government Grant to Institutions for the Protection of Infants against Tuberculosis.

On Jan. 24th the Chamber of Deputies voted the sum of 50,000 francs for the use of the institutions organised for the preservation of children from tuberculosis on the grounds that they were establishments of public utility. It is to Professor Granchet that the idea is due of boarding out in the country children who are exposed to the contagion of tuberculosis while they are still healthy. This was stated in the Chamber and it was also remarked that the provision of a sum of 50,000 francs was merely nibbling at the question and that if there were proper anxiety shown for the health of the nation in future years constantly increasing sums would have to be voted.

Tuberculosis and Disinfection.

A case bearing on the above question came up before the Sixth Chamber of the Tribunal recently. A traveller died from laryngeal tuberculosis in a Paris hotel. The proprietor demanded that the executors should disinfect his hotel but the executors refused, saying that tuberculosis did not come into the category of contagious maladies which had to be notified and therefore that the disinfection of a place where a person had died from tuberculosis was optional. The Tribunal, however, did not agree and the executors had to pay the expenses of disinfection which amounted to 150 francs.

Grave Symptoms after taking Antipyrin.

At the meeting of the Medico-Chirurgical Society held on Jan. 8th M. Druelle gave an account of the case of a girl, aged 18 years, who was being treated in the Saint Louis Hospital for a slight attack of psoriasis. One day she complained of a bad headache and she was given a cachet containing one gramme of antipyrin. Within 20 seconds she complained of prickings in her hands, her feet, and her mouth. Then her fingers and ankles became œdematous, while œdematous patches appeared on her eyelids and her lips. She complained of tickling in the throat, her respiration became gradually more and more embarrassed until she hardly breathed at all, and her pulse became imperceptible. She also had œdema of the glottis. Injections of ether were given and artificial respiration was resorted to. Gradually her respiration became normal and with its return the other symptoms disappeared. The extreme suddenness with which the alarming symptoms appeared made M. Lelu say that he thought it possible that the antipyrin was absorbed directly by the mucous membrane of the respiratory tract. M. Richard stated that he had seen a similar train of symptoms follow the administration of acetanilide. He considered that they were due to a direct toxic effect upon the blood corpuscles. Bicarbonate of sodium administered with antipyrin or acetanilide would prevent the complications in question.

Tuberculosis and the Postal Staff.

The committee appointed to study the above question has been holding meetings under the presidency of M. Seligmann-Luy, inspector-general of the department. A resolution was adopted that measures should be taken to obtain from Parliament a grant of 1,200,000 francs, so that postal, telegraph, or telephone employés suffering from incurable tuberculosis may be discharged from the service as being a source of danger to the rest of the staff or to the public. In a future sitting the committee will consider schemes for raising funds by voluntary subscriptions, lotteries, or other methods for the treatment of those in an early stage of tuberculosis by sending them to sanatoriums.

Feb. 6th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Emoluments of Medical Practice in Berlin.

AT a recent meeting of the Berlin Medical Chamber the treasurer presented a report on the incomes of the medical practitioners residing in Berlin and in the province of Brandenburg. The report arranged the practitioners in several classes according to their financial position, the number in each class and their incomes being as follows: 144, no taxable income; 999, income from 900 to 3000 marks (£45 to £150); 1685, income from 3000 to 5000 marks (£150 to £250); 1401, income from 5000 to 12,500 marks (£250 to £625); 495, income from 12,500 to 30,500 marks (£625 to £1525); 156, income from 30,500 to 80,000 marks (£1525 to £4000); 16, income from 80,000 to 120,000 marks (£4000 to £6000); 6, income from 160,000 to 180,000 marks (£8000 to £9000); and 3, an income of 260,000, 310,000, and 330,000 marks (£13,000, £15,500, and £16,500) respectively. The incomes have increased 6·8 per cent. as compared with the previous year. The number of medical men having either no income or a very small one is rather considerable, but this may be explained by the fact that the report includes medical men who have just settled in practice as well as those who are acting as assistants at hospitals and other institutions with a very small salary. It will also be observed that the number of medical men in the possession of a really large income is insignificant. Considering that in Berlin there are surgeons, consultants, and so on, of the highest renown to whom patients come from every part of the world it might be expected that these gentlemen would derive much greater emoluments from their practice than they actually do. The cause is perhaps that medical fees not only for the average practitioner but also for the consultant are much lower in Germany than in other countries, especially in France and in England. Residents in Berlin who have had to receive medical or surgical treatment during visits to foreign countries have been known to express surprise at the high fees which they were required to pay. Although there are scarcely any trustworthy statistics as to the incomes of consultants and surgeons in Paris and London their receipts are certainly much higher than those of the same class of medical men in Berlin.

The late Professor Rosenstein.

The announcement has appeared of the death of Dr. Samuel Rosenstein, professor of clinical medicine at the University of Leyden in Holland. Although he had lived out of Germany for 40 years he was a German by birth and must be regarded as one of the leading German clinical teachers, his principal works being written in the German language. Professor Rosenstein was born in 1832 in Berlin. He first studied philosophy and afterwards medicine at the University of Berlin where he took his medical degree in 1855. He then proceeded to Dantzic where he was appointed assistant physician at the municipal hospital, but in 1858 he returned to Berlin, where he worked under Professor Virchow and Professor Traube. In 1863 he was recognised as *privat-docent* in Berlin and in 1865 he left his native country to become ordinary professor of medicine at the University of Groningen in Holland. In 1872 he removed to the ancient and celebrated University of Leyden and passed the remainder of his life there, being highly appreciated in his native country as well as in Holland, where he had a large practice and acted as consulting physician to the Royal Family of Holland. Being in touch with both German and Dutch scientific life he has done a great deal to encourage mutual good feeling between the medical men of the two countries. His principal work was in connexion with the diseases of the kidneys and his handbook on this subject has for a long time been a standard work in German medical literature. He also carried out investigations on the diseases of the liver, on diabetes, and on endocarditis.

A Medical Peer.

Professor von Bergmann, the celebrated surgeon of the University of Berlin, who has just received a peerage, is the only medical peer of Royal creation, as Professor Küster, the other medical member of the Prussian Herrenhaus (House of Lords), sits in the House as representative of, and sent by, the University of Marburg. In the Prussian Lower House and in the Imperial German Parliament likewise there is a considerable number of medical members who take an active part in the proceedings, especially in connexion with questions of public hygiene.

Statistics of the German Universities.

The number of students at the German universities is not less than 42,390 in the present winter, as compared with 39,716 in the previous year and 29,117 in 1895. The increases in the number of students at four of the larger universities have been as follows during the last ten years: Berlin, from 5345 to 8081 students; Munich, from 2865 to 5147; Leipsic, from 3288 to 4224; and Bonn, from 1070 to 2908. The other universities also show a considerable increase with the exception of that of Würzburg, where 1368 students were

registered in 1895 and 1354 in 1905, and that of Greifswald where the students decreased from 875 to 692. Whilst the number of students in the other faculties has more than doubled since 1895, the number of medical students (and of Protestant theology likewise) has considerably decreased, the respective numbers being 7725 and 6032.

Feb. 5th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

A Canadian's View of the Tuberculosis Congress.

Dr. Elzear Pelletier, secretary of the Board of Health of the province of Quebec, has just returned to Montreal after attending the Paris Congress on Tuberculosis. He gives his views of the Congress to the Canadian press, medical and otherwise, to the effect that what the Congress considered of primary importance was the sanitary condition of dwellings, as it is there that most of the incubation of disease takes place; and taking this as his cue he lectures Montreal as regards the construction of abodes in that city. Dr. Pelletier declares that Professor Vallée's message to the Congress has dealt a severe blow to Professor Koch's theory on the transmissibility of bovine tuberculosis. And in speaking of Professor Grancher's investigations he would apparently coincide with the findings of that practical investigator as they concern school-life and the pre-tuberculous lesions.

Vancouver General Hospital.

Twenty years ago Vancouver, British Columbia, was an unknown quantity in either civic or professional life of any character. The thought that within 20 years the wild and virgin forest of that beautiful, healthful province of Canada would yield a city of 50,000 inhabitants with the fine, modern, hospital facilities which have only recently been established and which are said to be second to none in all Canada, never occurred to the most sanguine temperament of any one located in British Columbia two decades ago. But such is the fact. Vancouver General Hospital to-day is a hospital that many a citizen of a more pretentious city might envy, and it is equipped and manned by all that is modern and by a staff that is highly capable and competent. No doubt many who come out to Toronto in August to attend the annual meeting of the British Medical Association will visit this western city, where they will be sure to meet with a welcome which will be as breezy as it will be hospitable. It is situated probably 2600 miles west of Toronto, a distance which is considered a mere trifle in this country, or rather I should say, colony. The report of the medical superintendent for the month of November (in the old hospital) showed that during that month 67 new patients had been admitted to the wards, of whom 53 were males and 14 were females. 69 were discharged during the month, 47 being males and 22 females, and at the end of the month there were in the hospital 50 patients. In the conduct of the new hospital at Vancouver it is proposed that the board of directors shall appoint a house committee, which will have the services of a permanent secretary, to manage the non-medical affairs of the hospital. It has also been arranged that any person making a contribution of $100 to the hospital shall have the privilege of naming a life governor of the hospital.

Typhoid Fever in British Columbia.

In certain parts of the interior of the province of British Columbia during the past fall epidemics of typhoid fever have been raging to such an extent that the Provincial Board of Health deemed it necessary to despatch its regular health officer, Dr. C. J. Fagan of Victoria, to the respective scenes to make observations and investigations into the causes of the widespread prevalence of the disease. It makes one shudder to know that in an enlightened community, which has amongst its inhabitants medical men, lawyers, ministers, and teachers, a condition could exist as has been revealed by the investigations which have been carried on in the interests of sanitary science in the province of British Columbia. This refers particularly to the source of the infection, which has been traced to the milk-supply of certain places in that province. The entire matter has been taken in hand by the provincial health authorities of British Columbia and the energy which characterises the health officer of that province will soon bring about a very different state of affairs.

The Winnipeg General Hospital in 1905.

Winnipeg is a thriving city of Western Canada and the requirements for hospital accommodation keep well apace of the growth in population. And, indeed, it must, as the amount of work done in the Winnipeg General Hospital increases rapidly from year to year. In 1901 the number of patients treated in the wards was 2773; in 1902, 2928; in 1903, 3354; in 1904, 3868; and in 1905, 4366. The increases in the out-patient departments keep pace with those in the inside. In 1901 the number treated was 1607; in 1902, 1363; in 1903, 3483; in 1904, 4772; and in 1905, 5735. During 1905 332 patients died in the hospital, thus giving a percentage of 7·65. Of the total number of deaths 41 died within 24 hours of their admission.

The Proposed New Toronto General Hospital.

Matters in connexion with the proposed new Toronto General Hospital, though somewhat chaotic, are gradually assuming a shape from which in the very near future there will be a united and progressive advance. Meetings are being held weekly, if not almost in some weeks daily, conferences are being held, and calls for subscriptions and inauguration of special funds are the order of the day. There are now subscribed over $1,000,000, but the work will not be pushed until at least $1,500,000 have been subscribed. Amongst the latest subscriptions is one from the Medical Faculty of the University of Toronto of $50,000, and a fund has been inaugurated by the retiring mayor of the city, to which he contributed $100 and asks that 999 other citizens should join in this fund. It is gratifying to know that this fund is proving a popular one and already many have subscribed to it. Recently a most important conference took place between the representatives of the various interests of the hospital and the Ontario Government. At this conference it was decided that a new Act of incorporation and constitution should be promoted at the next session of the Ontario legislature. This Bill will provide for a board of directors to the number of 25, eight of whom will be appointed by the Ontario Government, five by the University of Toronto, five by the city of Toronto, and seven by the benefactors. The present board, which consists of five members, will be dispensed with. Benefactors shall be those who, prior to the passage of the said Act, have contributed $500 to the hospital, or after the passage thereof $1000. The Act of incorporation will further provide that the wards shall be open to the students of the University of Toronto for educational purposes alone and that any patient who pays for his maintenance shall have the choice of his own physician, which latter will be subject to the rules and regulations of the trustees. A site will be shortly chosen which it is believed will be near the present medical building of the University of Toronto, and as soon as located it is understood that the erection of a modern outdoor department will be commenced.

Notre Dame Hospital, Montreal.

The annual meeting of the board of governors of the Notre Dame Hospital, Montreal, was held in that city recently. During the past hospital year the number of patients treated in the wards amounted to 2230, an increase of four over the previous year. Each patient cost the hospital $1·13 per day. Of the number treated 1303 were men and 927 were women. 1871 left the hospital cured or better, 183 were incurable, and 165 died in the hospital. Of the latter number 53 were taken to the hospital in a dying condition. In the different outdoor departments there were 20,991 consultations, divided as follows: surgery, 6585; medicine, 5001; diseases of the eyes, 3412; children's diseases, 1574; skin diseases, 1072; nervous diseases, 807; women's diseases, 790; and teeth troubles, 193; while 1557 urgent cases were treated by the resident medical officers. The financial report for the year showed a deficit of $229·49. The receipts during the year amounted to $41,374.44 and the expenditure to $41,603.93.

Jan. 30th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A Sanitary Commission for Singapore.

IN consequence of the high mortality and insanitary condition of Singapore a commission has been appointed by the Straits Government. It appears that the health officers

of several cities have been asked to join the commission, but while Calcutta has agreed to part with its health officer the Bombay corporation has refused to do so.

Conditions bordering on Famine.

The want of rain is severely felt in some parts of India and famine is only averted by timely relief. In Rajputana 68,000 persons are receiving assistance, in Bombay 5000, and in the United Provinces 387,000. Test works in Muttra, Jhansi, Hamirpur, and Cawnpore attract workers. The cattle are suffering severely in the affected districts.

The Plague Epidemic.

The plague statistics show an increase of the disease, though the annual recrudescence is much behind time. The United Provinces return 1184 deaths, Bengal 1073, Bombay 802, Punjab 563, Central Provinces 228, Mysore 139, Burma 114, Kashmir 55, Hyderabad 47, Madras 43, and Rajputana 30. There has been an outbreak in Madras city from a few suspicious cases about Christmas. All the cases, about 20, have been reported from the neighbourhood of the emigration depôts in the northern suburb—the same area which gave rise to the scare previously.

The Septic Tanks on the Hooghly.

The septic tank question about which such an outcry was made last year has been partially settled. It will be remembered that several of the mills on the river Hooghly above Calcutta had established these tanks in connexion with their latrines and that the effluents were discharged into the river. The complaints were almost entirely sentimental but a committee of inquiry was appointed. A Government resolution has now been issued. It admits that the amount of pollution is very much less than was previously indicated and the lieutenant-governor accepted the conclusions of the committee that if the installations are constructed and worked in accordance with its recommendations, and if the effluent is further suitably treated with chlorinated lime in the manner laid down by the sanitary commissioner, the resulting discharge will be free from objection both from a chemical and from a bacteriological point of view. It is now ordered that if the conditions be complied with there will no longer exist any sanitary ground for opposing the construction of new installations or the continuance of those already established. Unfortunately, a want of confidence in its own advisers and their capacity to conduct experiments and to draw deductions from them is shown in the appointment by the Government of Bengal of an expert from England. The committee which conducted the experiments and made the recommendations which have been accepted was composed of sanitary specialists. Outside assistance in this matter is wholly uncalled for and is a slur on the capacity of the high officers engaged in these inquiries.

Jan. 19th.

Obituary.

GEORGE WELLER, M.R.C.S. ENG., L.S.A.

George Weller, the youngest son of the late Captain J. Weller, shipowner, of Bow-road, E., was born in the year 1841. He was educated at the Stepney Grammar School and was afterwards apprenticed to the late Mr. Thomas Jones of Chesterfield. Mr. Jones had a large general practice, with charge of collieries, he was also the union medical officer and held various parochial districts attached to the union, so that under his careful instruction Mr. Weller gained much useful information and was well grounded in the routine work of a general practice. He joined the London Hospital as a student in 1860 and after passing the Royal College of Surgeons of England in 1863 and the Society of Apothecaries of London in 1865 was appointed house surgeon to the hospital. Subsequently he became resident accoucheur and assistant medical officer. His devotion to the arduous duties of these appointments injured his health, and although pressure was put on him to leave the hospital and to go for a voyage it was with some difficulty that he was induced to do so. He finally yielded, however, and went to Australia. Returning in 1866 with his health re-established he commenced practice in Wanstead, Essex. Here, in addition to the routine of general practice, he held various appointments, was medical officer to the Merchant Seamen's Orphan Asylum, surgeon to the "N" and "K" divisions of the Metropolitan Police, medical officer to the Wanstead Maternity Society and Provident Dispensary, and for a time a member of the local board of health. He retired from the active work of general practice after 22 years and commenced consulting work in West-street, Finsbury, but 12 months afterwards began to suffer from symptoms of empyema of the frontal sinuses for which he underwent operation on two or three occasions. He then retired to Willesden, hoping still to do some useful work, but was again obliged to give up owing to the formation of a renal calculus which was removed in July, 1900. He then relinquished practice and finally removed to South Croydon, where he died on Jan. 25th after a long and distressing illness borne with much courage. During the last few years of his life he travelled a good deal, going to the South of France, Algiers, Egypt, South Africa, the Canaries, and other places, and there is no doubt that his health was much better when he was in a warmer climate.

George Weller was a good example of the advantages of the apprenticeship system of medical training and always acknowledged the value of his experiences as a youth in the large Chesterfield practice. His practical knowledge and devotion to duty received recognition in Wanstead and the surrounding district, where he soon established an extensive practice. No one who knew him could doubt the honesty of purpose and upright character of the man, and any suspicion of unfair dealing or story of oppression called forth an expression of indignation on his part which was very emphatic. His numerous illnesses produced a serious effect on his career and interfered very much with his success as a consultant, leading ultimately to his retirement, but he never lost the confidence and friendship of some of his patients who relied on him for help to the end. George Weller was never married but leaves a brother and sisters to mourn their loss. The interment took place quietly in the family vault in the Tower Hamlet Cemetery on Jan. 31st in the presence of several relatives and old friends.

JOSEPH FRAIN, M.D. ST. AND., L.R.C.P. EDIN., M.R.C.S. ENG., L.S.A.

BY the death of Dr. Joseph Frain at the advanced age of 84 years Tyneside has lost one of its oldest and most respected practitioners. Dr. Frain was for many years in practice in Frederick-street, South Shields, of which town he was a well-known and highly respected resident. Though so well known as a practitioner of medicine and much sought after for his skill he was particularly identified with the public affairs of the seaside borough and every philanthropic or educational enterprise had his earnest support. In the old days before the advent of free libraries he did much to foster the Mechanics' Institute in which he took a great interest. When the first school board was formed in South Shields in 1871 he was elected a member and six years later served as chairman for a period of three years. For many years he was also a guardian of the poor, a position from which he retired in 1887. His professional education was received at the Medical School of Newcastle upon-Tyne, in Edinburgh, and in London. So long ago as 1845 he took the "College and Hall" and 17 years later the M.D. of St. Andrews. In the Ingham Infirmary he took a great interest and at the time of his death was one of the honorary consulting surgeons, a position he also held in connexion with the South Shields and Westoe Dispensary. For many years he was a member of the old Pathological Society and also of the present Northumberland and Durham Medical Society and was a frequent attendant at the meetings. About 15 years ago he retired from practice in South Shields, where he was succeeded by his son-in-law, Mr. C. Pope, who predeceased him, and went to live in Newcastle. His interest in medical affairs was unabated almost to the end, and so recently as December last he was present at the lecture on Aphasia by Dr. Byrom Bramwell. Long after his retirement he was very frequently to be seen in the operating theatre of the Newcastle Infirmary, perhaps watching the operations of a surgeon whom he had himself assisted into the world. His patriarchal appearance, combined almost with the keenness of youth, never failed to direct attention to his tall straight figure. Always a great reader, he spent much of his leisure in this way and was a

very regular borrower from the infirmary library. He was providentially spared a long illness and died full of years and universally respected. The interment took place at St. Andrew's Cemetery on Jan. 30th and at the service the chosen hymn, "Now the labourer's task is o'er," seemed particularly appropriate.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Josef Vassilovitch Kostenitch, professor in the Clinical Institute of the Grand Duchess Elen Pavlovny. His special study was embryology and histology but he was also an ophthalmologist and since 1903 had been director and chief physician in the St. Petersburg Eye Hospital.—Dr. Peter Jacobs, the senior member of the medical profession in Cologne, at the age of 96 years.—Dr. Domenico Chiara, formerly professor of midwifery in Florence.—Dr. De Villo W. Harrington, professor of urinary diseases in the University of Buffalo.—Dr. Rosanelli, formerly extraordinary professor of general pathology in Padua.—Dr. Ranney, professor of neurology in the University of Vermont.—Dr. Ercole Pasquali, professor of midwifery in Rome, at the age of 80 years.—Dr. Emil von Wolfring, formerly professor of ophthalmology in the University of Warsaw.—Dr. André Thouvenet, professor of physiology in Limoges.

Medical News.

UNIVERSITY OF OXFORD.—The following medical degree was conferred in a congregation held on Jan. 27th:—

Bachelor of Medicine and Surgery.—H. D. Davis, B.A., Balliol College.

UNIVERSITY OF CAMBRIDGE.—At the congregation on Jan 30th the following degrees were conferred:—

M.D.—C. D. Henry, St. John's.
M.B. and B.C.—S. Gooding, St. John's; and M. A. Cassidy, Clare.
B.C.—J. Michel Smith.

GERMAN CONGRESS OF ORTHOPÆDIC SURGERY.—The Fifth Congress of the German Society for Orthopædic Surgery will be held in Langenbeck House, Ziegelstrasse, Berlin, on April 3rd, the day before the assembling of the German Surgical Congress, which will meet in the same building, as was announced in THE LANCET of Feb. 3rd, p. 316. Professor Adolf Lorenz of Vienna will preside, the proceedings will commence at 9 A.M., and in the afternoon the general meeting will be held, at which the question of raising the members' subscription to 20 marks will be considered. Papers and other communications should be notified as soon as possible—by March 1st at the latest—to Professor Joachimsthal (Berlin W., Magdeburger Strasse, 36). Patients arriving from abroad may be accommodated in the Royal Surgical Clinic of his Excellency Geheimrat Professor von Bergmann (Ziegelstrasse 5/9). Applications from intending members should be sent to Professor Joachimsthal, accompanied by introductions from three members of the society.

CARDIFF INFIRMARY.—During the past five years nearly £20,000 have been expended upon the Cardiff Infirmary in the endeavour to make it one of the best equipped of modern hospitals. It has, however, been apparent to those who take an interest in the institution that at no very distant date additions will have to be made in order to increase the existing accommodation for in-patients. At present only 178 patients can be received in the wards at one time and the necessity for enlargement is shown from the fact that early in this year there were no fewer than 336 patients awaiting admission. The existing buildings are not at all crowded on the site and there is enough vacant space to provide further accommodation for 100 patients. New accident wards and out-patient dressing rooms were opened by Sir John Williams in 1903 and it is now proposed to rearrange the out-patient department, providing at the same time much needed accommodation for 14 additional nurses. The cost of this scheme is estimated at £7000, towards which sum an anonymous donor has offered £1000 provided the remaining £6000 are promised during the present year.

THE GENERAL ELECTION.—Dr. W. R. Smith has been unsuccessful in the contest for the Parliamentary representation of the Universities of Glasgow and Aberdeen but Sir John Batty Tuke's re-election for the Universities of Edinburgh and St. Andrews seems to be assured.

DONATIONS AND BEQUESTS.—Sir E. P. Wills, Bart., has given £1500 for the endowment of a bed at the Bristol General Hospital.—The late Mr. A. C. Pass has bequeathed £1000 to the Bristol General Hospital and a further sum of £2000 if his son should attain the age of 21 years; £500 to University College, Bristol; £200 to the West of England Sanatorium, Weston-super-Mare; and £100 each to the Bristol Eye Hospital, to the Weymouth and Dorset County Royal Eye Infirmary, and the Princess Christian Sanatorium, Weymouth.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board, under the provisions of the rules of procedure on the proposed removal of a name from the Roll of Midwives, was held on Jan. 30th at 6, Suffolk-street, Pall Mall, London, Dr. F. H. Champneys being in the chair. The following charges alleged against a certified midwife, Eliza Pugh, were heard:—

That being in attendance on the confinement of a woman on Oct. 12th, 1905, she was guilty of negligence and misconduct in the following respects: (*a*) The perineum being ruptured she did not decline to attend alone or advise that a registered medical practitioner should be sent for, as required by Rule E, 17. (*b*) On the occurrence of a rigor on Oct. 16th she did not decline to attend alone or advise that a registered medical practitioner should be sent for, as required by Rule E, 17. (*c*) On the arrival of Dr. T. H. Scott on Oct. 17th she stated, in reply to a question by him, that the patient was not torn or injured, well knowing that the perineum was ruptured and that an attempt had been made by an unqualified person to stitch it up. That she was habitually uncleanly in person and did not obey the requirements of Rule E, 1. That when called to a confinement she did not take with her the appliances required by Rule E, 2.

The Board directed that the name of this midwife should be removed from the roll. The hearing of the following charges alleged against a certified midwife, Jane Tween, was then proceeded with:—

That being in attendance on the confinement of a woman on Sept. 15th, 1905, and subsequent days, she was guilty of negligence and misconduct in the following respects: (*a*) The placenta not having been expelled within an hour after the birth she did not decline to attend alone or advise that a registered medical practitioner should be sent for, as required by Rule E, 17. (*b*) Both mother and child being ill she did not decline to attend alone or advise that a registered medical practitioner should be sent for, as required by Rule E, 17. (*c*) On the arrival of Dr. F. Pershouse on Sept. 22nd she did not faithfully carry out his instructions, as required by Rule E, 6, but declined to attend the patient, or to administer a vaginal douche as ordered by him. (*d*) Being ordered by Dr. F. Pershouse to administer vaginal douches on Sept. 23rd and 24th she purported to comply with these orders by injecting the lotion per rectum. (*e*) She did not give directions for securing the comfort and proper dieting of the child, as required by Rule E, 11, but fed it on oatmeal and gin, thereby conducing to its death on Sept. 24th. That she was habitually uncleanly in person and did not wear a dress of washable material as required by Rule E, 1. That when called to a confinement she did not take with her the appliances and antiseptics required by Rule E, 2. That she did not keep a register of cases as required by Rule E, 19.

The Board directed that the name of Jane Tween should be removed from the roll. The following charges alleged against a certified midwife, Elizabeth Jacklin, were then heard:—

That she was a person of intemperate habits and in particular she was intoxicated at 5 P.M. on August 2nd, 1905, in her own house. That she was under the influence of drink on June 23rd, 1905, at the office of the medical officer of health. That she was habitually uncleanly in person, and did not wear a dress of washable material, as required by Rule E, 1. That when called to a confinement she did not take with her the appliances required by Rule E, 2. That she did not keep a register of cases, as required by Rule E, 19.

The Board directed that the name of Elizabeth Jacklin should be removed from the roll. The charges alleged against a certified midwife, Esther Smith, were then heard:—

That she was habitually uncleanly in person and did not wear a dress of washable material as required by Rule E, 1. That when called to a confinement she did not take with her the appliances or antiseptics required by Rule E, 2. That she did not disinfect her hands and forearms previous to touching the genital organs or their neighbourhood, as required by Rule E, 3. That she did not before making the first internal examination wash the patient's external parts with soap and water and then swab them with an antiseptic solution, as required by Rule E, 7. That she did not keep a register of cases, as required by Rule E, 19.

The Board directed that the name of Esther Smith should

be removed from the roll. The following charges alleged against a certified midwife, Mary Ann George, were then heard :—

That on Jan. 27th, 1905, she was charged with felony at the City of Worcester police court and having pleaded guilty was convicted thereof. That on Oct. 27th, 1905, she was charged at the City of Worcester police court with having failed to notify the fact of her intention to practise to the local supervising authority in accordance with Section 10 of the Midwives Act, 1902, and being convicted thereof was fined £1. That when called to a confinement she did not take with her the appliances or antiseptics required by Rule E, 2. That she did not keep a register of cases, as required by Rule E, 19.

The Board directed that the name of Mary Ann George should be removed from the roll and also gave instructions that the papers in this case should be sent to the Public Prosecutor for his consideration of the facts concerning the signing of a certificate of good character of this midwife by a clergyman. The following charges alleged against a certified midwife, Sarah Howe, were heard :—

That she was uncleanly in person, and did not wear a dress of washable material, as required by Rule E, 1. That when called to a confinement she did not take with her the appliances or antiseptics required by Rule E, 2. That she did not keep a register of cases as required by Rule E, 19.

The Board decided in this case that Sarah Howe was to be severely censured and cautioned as to her future conduct.

SANITARY INSPECTORS' ASSOCIATION.—The twenty-third annual dinner of the Sanitary Inspectors' Association was held at the Holborn Restaurant on Feb. 3rd, under the presidency of Sir James Crichton-Browne. Among those present were Sir William H. Broadbent, Sir Wyke Bayliss, Dr. J. C. Thresh, Dr. J. M. Rhodes, Sir Shirley F. Murphy, Dr. L. T. F. Bryett, Mr. Andrew Clark, Mr. G. Elliston, and Mr. W. W. West, chairman of the council of the Sanitary Inspectors' Association. Many of the mayors of the metropolitan boroughs were also present. The toast of "The King" having been duly honoured Sir William Broadbent gave the toast of "Science and Art," to which Sir Wyke Bayliss responded for art, remarking that art and sanitation, although very different from each other, were not far apart. Art was the science of beauty and sanitation was the science of health; beauty and health were the same thing. Dr. Thresh replied on behalf of science. The President, proposing the toast of "The Sanitary Inspectors' Association," said that the beneficence of the work of sanitary inspectors was now generally recognised. There was a growing appreciation in the public mind of the value of their services, an appreciation which must take shape some time in the granting to sanitary inspectors that security of tenure which was requisite to enable them to do their work without fear or favour, in the provision of adequate means of education, training, and official certification for those who were desirous of entering their ranks, and in the granting of pensions. It was satisfactory to note that there was a steady, intelligent, and sustained interest in sanitary matters throughout the land. He pleaded for a thoroughly efficient sanitary police, well armed, invested with full authority, and working under a Minister of Public Health with a seat in the Cabinet. What they had to do was to convince the public of the power and potency of sanitation and of its pecuniary advantages, and they had, he thought, an opportunity of pressing that lesson home on the public in connexion with pulmonary consumption.

LITERARY INTELLIGENCE.—The first number of *La Bulgarie Médicale*, which is edited by Dr. Chr. Doctoroff, director of the Sofia Institute for combating Infectious Diseases, has recently appeared. In a note at the commencement it is remarked that it is quite a mistake to suppose that because there is no medical faculty in the University the medical literature of Bulgaria must be valueless. All the 700 medical practitioners distributed throughout the country have been educated at foreign universities and are quite able to make full use of the invaluable clinical material to which their practice introduces them. Owing, however, partly to the fact that the Bulgarian language is almost unknown abroad and partly to the difficulty of obtaining facilities for publishing medical works, Bulgarian medical literature has never taken the place to which it may fairly aspire. The two chief medical journals are *Letopissina Lékarskia sdiouse v Bálgaria* (*The Annals of the Bulgarian Medical Union*) and *Bálgarski Lékar* (*The Bulgarian Doctor*). There are also an official publication dealing mainly with sanitary statistics and regulations and a military medical journal which has only lately made its appearance. All of these are in the vernacular, and *La Bulgarie Médicale* promises abstracts of the more important scientific articles in French. The present number gives one of a paper by Dr. Dragomiroff, physician to the Philippopoli Hospital, on an epidemic of cerebro-spinal meningitis occurring in 1903. The author met with 131 cases, the mortality of which was 53·5 per cent. He does not believe in the contagious nature of the affection because though the cases were scattered about in different wards none of the other patients or nurses contracted the disease. He employed lumbar puncture in 21 cases, 13 of which proved fatal.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

Nouveau Traité de Médecine et de Thérapeutique. Publié en Fascicules sous la direction de MM. P. Brouardel et A. Gilbert. XV. Maladies de la Bouche, du Pharynx, et de l'Œsophage. Par G. Roque, Professeur Agrégé à la Faculté de Médecine de Lyon, Médecin des Hôpitaux, et L. Galliard, Médecin de l'Hôpital Laribolsière. Price Fr.5.

Formulaire des Médicaments Nouveaux. Pour 1906. Par H. Bocquillon-Limousin, Docteur en Pharmacie, Pharmacien de 1re Classe, Lauréat, médaille d'or de l'Ecole de Pharmacie. Avec une Introduction par Henri Huchard, Membre de l'Académie de Médecine, Médecin de l'Hôpital Necker. Price Fr.3.

BELL, GEORGE, AND SONS, York House, Portugal-street, W.C.

The Universal Kinship. By J. Howard Moore, Instructor in Zoology, Crane Manual Training High School, Chicago. Price 4s. 6d. net.

BLACK, ADAM AND CHARLES, Soho-square, W.

The Writers' and Artists' Year-book, 1906. A Directory for Writers, Artists, and Photographers. Price 1s. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

Saint Thomas's Hospital Reports. New Series. Edited by Dr. H. P. Hawkins and Mr. W. H. Battle. Vol. XXXIII. Price 8s. 6d. net.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Bibliothek v. Coler. Herausgegeben von O. Schjerning. Band 3. Die Blinddarmentzündung (Perityphlitis) in der Armee von 1880–1900. Von Dr. Stricker, Generalarzt und Korpsarzt des Gardekorps. Price M.4.

PITMAN, SIR ISAAC AND SONS, LIMITED, 1, Amen Corner, E.C.

Home Gymnastics for Young and Old. By T. J. Hartelius, M.D., Principal Lecturer at the Royal Gymnastic Central Institute, Stockholm. Translated and adapted from the Swedish by C. Löfving. Fifth edition, revised. With a Prefatory Note. By Arthur A. Beale, M.B. Price 1s. 6d.

REBMAN, Limited, 129, Shaftesbury-avenue, W.C.

A Manual and Atlas of Orthopedic Surgery, including the History, Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment of Deformities. By James K. Young, M.D., Associate in Orthopedic Surgery, University of Pennsylvania, Professor of Orthopedic Surgery, Philadelphia Polyclinic, Clinical Professor of Orthopedic Surgery, Women's Medical College of Pennsylvania. Price £2 12s. 6d. net.

RUDEVAL, F. R. de, 4, Rue Antoine Dubois (VIe), Paris.

L'Injection Trachéale Simplifiée. Son Emploi dans le Traitement des Affections Respiratoires et notamment de la Tuberculose Pulmonaire. Par le Dr. Henri Mendel, Ancien Interne des Hôpitaux de Paris. Price Fr. 1.50.

SPRINGER, JULIUS, Monbijouplatz, 3, Berlin.

Physiologie und Pathologie des Mineralstoffwechsels, nebst Tabellen über die Mineralstoffzusammensetzung der menschlichen Nahrungs-und Genussmittel sowie der Mineralbrunnen und -Bäder. Von Dr. Albert Albu, Privatdozent für innere Medizin an der Universität zu Berlin und Dr. Carl Neuberg, Privatdozent u. chemischer Assistent am Pathologischen Institut der Universität Berlin. Price M.7.

SWAN SONNENSCHEIN AND CO., LIMITED, 25, High-street, Bloomsbury, W.C.

The Cambridge Year-Book and Directory. 1906. Price 5s. net.
The Oxford Year Book and Directory. Price 5s. net.
The Schoolmasters' Year-Book and Directory, 1906. Price 6s. net.

TAFFARD, E., 6, Rue Métivier, Bordeaux.

Le Béribéri. Monographie par le Docteur C. M. E. Dubruel, Médecin-Major de 2me Classe des Troupes Coloniales. Price Fr.4.

VIGOT, FRÈRES, 23, Place de l'Ecole-de-Médecine, Paris.

Thérapeutique Oculaire. De l'Emploi des Alcaloïdes en Solution Huileuse. Par le Docteur Scrini, Chef de Clinique Ophtalmologique de la Faculté de Paris, Mention honorable (Prix Barbier, 1905), Institut de France (Académie des Sciences). Price Fr.2.50.

WILLIAMS AND NORGATE, 14, Henrietta-street, Covent-garden, W.C.

Transactions of the Epidemiological Society of London. New Series. Vol. XXIV. Session 1904–1905. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADAMS, R. G., M.B., L.R.C.P. Edin., has been appointed House Physician at the North-Eastern Hospital for Children, Hackney-road, Bethnal Green, E.

BARWELL, HAROLD, M.B. Lond., F.R.C.S. Eng., has been appointed Surgeon for Diseases of the Throat at St. George's Hospital.

BLACKWOOD, WILLIAM, M.B., Ch.B. Edin., has been appointed Honorary Surgeon to the Camborne (Cornwall) Division of the St. John Ambulance Association.

BRODIE, DENBOROUGH, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer of the Tetbury (Gloucestershire) Union.

COOKE, ALFRED S., M.R.C.S. Eng., L.S.A., has been appointed Consulting Surgeon to the Stroud General Hospital.

DODDS, H. B., M.D. Edin., has been appointed Assistant Resident Medical Officer at the Royal National Hospital, Ventnor, Isle of Wight.

FREEMAN, W. T., M.D. Durh., F.R.C.S. Eng., has been appointed Medical Officer to the Reading Prison.

GRANDAGE, W. B., M.R.C.S., has been appointed Resident House Surgeon at the Victoria Hospital for Children, Chelsea.

GRANT, W. GORDON, M.D. Aberd., has been appointed Honorary Gynæcologist to the Hospital, Johannesburg, Transvaal.

GRIFFITHS, E. R., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Assistant Medical Officer at the Lewisham Infirmary.

HEPWORTH, F. ARTHUR, M.B., B.C. Cantab., has been appointed House Surgeon at the Derbyshire Royal Infirmary.

LEAPINGWELL, ARTHUR E., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon at the Derbyshire Royal Infirmary.

MACGILVRAY, W. J. HOOKER, L.R.C.P., L.R.C.S., L.M. Edin., L.F.P.S. Glasg., has been appointed Medical Officer to the Royal Rusholme and District Provident Dispensary, Manchester.

MCNEILE, JOSEPH JAMES, L.R.C.S. & P. Irel., has been appointed Medical Officer of Rossguill Dispensary District, Carrigart, co. Donegal.

NEWMAN, ERNEST L., M.B. Syd., has been appointed House Surgeon at the North-Eastern Hospital for Children, Hackney-road, Bethnal Green, E.

PEARSE, T. F., M.D., F.R.C.S. Eng., M.R.C.P. Lond., D.P.H. Camb., has been appointed Examiner in Hygiene at the University of Calcutta.

PETERKIN, G., M.D. Edin., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Forfar District of the county of Forfar.

RAWES, LESLIE, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the North-Eastern Hospital for Children, Hackney-road, Bethnal Green, E.

ROBERTS, ADELINE MARY, M.D., B.S. Lond., has been appointed Medical Registrar to the Royal Free Hospital, London.

ROBERTS, E. J., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at the Derbyshire Royal Infirmary.

TURNER, J. A., M.B., D.P.H. Camb., has been reappointed Executive Health Officer, Municipality of Bombay, for five years from Feb. 1st, 1906.

WILMOT, T. J. T., M.B., Ch.B., B.A.O. Dub., has been appointed House Surgeon at the Derbyshire Royal Infirmary.

WILSON, HAROLD W., F.R.C.S. Eng., has been elected to the Luther Holden Research Scholarship at St. Bartholomew's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board, washing, &c.

BURY INFIRMARY.—Senior House Surgeon. Salary £110, with board, residence, and attendance.

CANCER HOSPITAL, Fulham-road, London, S.W.—Senior House Surgeon for six months. Salary £80 per annum, with board and residence.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, also House Surgeon, both unmarried. Salary in each case £90 a year, with board and lodging.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Two Physicians to Out-patients.

DENBIGH, DENBIGHSHIRE INFIRMARY.—House Surgeon. Salary £100, with board, residence, and washing.

DURHAM COUNTY COUNCIL.—Inspector of Midwives and Health Visitor (female). Salary £120 per annum, rising to £150, with travelling expenses.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Surgeon.

HULL ROYAL INFIRMARY.—House Surgeon, unmarried. Salary 80 guineas per annum, with board and apartments.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Assistant House Surgeon. Salary £75, with residence, board, and washing.

LARBERT, STIRLING DISTRICT ASYLUM.—Senior Assistant Medical Officer. Salary £150, with board.

LEICESTER INFIRMARY.—House Surgeon. Salary £100 per annum, with board, apartments, and washing.

LINCOLN COUNTY HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

LONDON COUNTY ASYLUMS, Banstead, Surrey, and Colney Hatch, New Southgate, N.—Junior Assistant Medical Officer at each Asylum. Salary £150 per annum, with board, apartments, and washing.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Honorary Surgeon.

MANCHESTER, ST. MARY'S HOSPITAL, Clifford-street.—House Surgeon. Salary £70 per annum.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Physician.

NEWCASTLE-ON-TYNE DISPENSARY.—Two Visiting Medical Assistants. Salary £160, rising to £180 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road.—House Surgeon. Also Non-resident House Surgeon.

NEW ZEALAND, GOVERNMENT MENTAL HOSPITALS.—Assistant Medical Officer, unmarried. Salary £250, with board, lodging, and washing.

PETERBOROUGH INFIRMARY AND DISPENSARY.—Surgeon, Assistant Physician, and Assistant Surgeon.

RICHMOND, SURREY, ROYAL HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board and apartments.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary at rate of £80 per annum, with board, lodging, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Anæsthetist and Curator of Museum (female).

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon, for six months. Salary £60 per annum, with rooms, board, and washing.

TORBAY HOSPITAL, Torquay.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

WINCHESTER, CITY OF.—Medical Officer of Health. Salary £300 per annum.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Physician, unmarried. Salary £65 per annum, rising to £75, with board, residence, &c.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at East Ilsley, in the County of Berks, and at Sherston, in the County of Wilts.

Births, Marriages, and Deaths.

BIRTHS.

DOVE.—On Feb. 3rd, at Gothic Lodge, Leatherhead, the wife of W. B. Dove, M.A., M.B., B.C. Cantab., of a son.

HODGSON.—On Feb. 3rd, at The Crescent, Salford, Lancs., the wife of Stanley Hodgson, M.D., B.S. Lond., M.R.C.S., of a son.

JONES.—On Feb. 5th, 1906, at Whitby, the wife of Arthur R. Jones, M.R.C.S., L.R.C.P., of a son.

STEVENS.—On Feb. 1st, at Riverton, Ryde, the wife of Major C. R. Stevens, I.M.S., of a daughter.

THYNE.—On Feb. 1st, at Tudor House, Barnet, Herts, the wife of William Thyne, M.A., M.D., of a son.

TURNER.—On Feb. 4th, at 17, Harley-street, W., the wife of William Turner, M.S., F.R.C.S., of a son.

WALKER.—On Feb. 4th, at Westgate, Peterborough, the wife of R. Alec. Walker, M.B., F.R.C.S., of a daughter.

MARRIAGE.

BOYER—SCHIELE.—On Nov. 16th, 1905, at Holy Trinity Church, Lamas de Zamora, Argentine Republic, Louis Joseph Boyer to Olga Alberta Schiele, M.B., B.S. Dun., younger daughter of Edward C. Schiele, Esq., Estancia Fortin Las Tunas, Cordoba.

DEATHS.

BLAKE.—On Jan. 31st, at Hillside, Buckhurst Hill, Edwin Henry Blake, surgeon, formerly of Dacre Lodge, Plashet-road, Upton, E.

SYM.—At 2, Morningside Park, Edinburgh, on Feb. 1st, Allan Cuthbertson Sym, M.D., fourth son of the late William Sym, Esq.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE APOTHEOSIS OF THE APPENDIX.

THE following verses have reached us from Oxford:—

A Grecian sage—so as a boy I
Was given to understand—this maxim
Used to repeat, did any ax'im:—
"'Η φύσις οὐδὲν μάτην ποιεῖ."

But what I ask by day, by night, is:—
Granting he's right, then what's the end expressly subserved by my appendix,
Except to cause appendicitis?

My surgeon grimly makes reflection
As I lie here in bed extended:—
"What can't be mended, must be ended"—
He meditates my viviasection.

Then my appendix, thy true merit
Will not lack monument or blazon:
For thou wilt stand for all to gaze on
Preserved in methylated spirit.

Oxford, Jan. 31st. A. E. J. R.

SUPERCILIARY GYMNASTICS.

To the Editors of THE LANCET.

SIRS,—You may like to know of any similar cases to the ones described in your valuable paper. I can raise the left eyebrow and can keep the right one steady or move it down to a frown as I think fit. Until I read the reference to the cases in THE LANCET I have never met or heard of anyone being able to do the same.

I am, Sirs, yours faithfully,
Jan. 24th, 1906. H. C.

POISONING BY OLEANDER.

To the Editors of THE LANCET.

SIRS,—Dr. F. Lucas Benham will find the details he wants of poisoning by oleander in "The Text-book of Medical Jurisprudence for India" (pp. 236-98, 376-78), by I. B. Lyon, F.C.S., F.I.C., Brigade-Surgeon (Bombay Medical Service). The book is published by Messrs. W. Thacker and Co., 87, Newgate-street, London (published 1889).

I am, Sirs, yours faithfully,
Vankaner, Jan. 18th, 1906. K. A. NANAVUTTY.

UNDESIRED PUBLICITY.

To the Editors of THE LANCET.

SIRS,—There is inserted in the *Yorkshire Post* of Feb. 5th a copy of the notes of my case on the Restoration of the Lower Lip published in THE LANCET of Feb. 3rd. May I ask you to accept my assurance that this was done without my knowledge or authority?

I am, Sirs, yours faithfully,
Leeds, Feb. 5th, 1906. W. H. BROWN.

WE have received from Bovril, Limited, a signed artist's proof of their new presentation plate, "The Home of the Swans," after the picture by Fred Morgan. The picture (which has been finely reproduced by Messrs. C. W. Faulkner and Co.) represents two pretty children, a curly-headed girl and boy, feeding swans from a boat propelled by a lady in white.

Alpha.—We think that the attention of the editor might be drawn to the matter.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 8th, 1906.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb.	2	30·12	W.	0·01	74	50	42	43	45	Cloudy
,,	3	29·68	W.	0·05	68	44	41	42	43	Raining
,,	4	29·97	N.	0·06	72	42	40	39	40	Fine
,,	5	30·21	N.E.	0·01	60	42	34	33	35	Cloudy
,,	6	30·28	N.E.		41	39	34	32	36	Overcast
,,	7	30·28	N.	0·01	65	46	35	35	38	Fine
,,	8	29·98	S.W.	...	47	45	36	39	41	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (14th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (15th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (16th).—London (2 P.M.), St. Batholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (17th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (12th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Clinical Evening. Cases will be exhibited by Dr. A. Morison, Dr. P. Parkinson, Dr. L. Guthrie, Dr. P. Weber, Mr. C. J. Symonds, Mr. F. C. Wallis, Mr. J. Hutchinson, jun., Mr. W. D. Harmer, and Mr. M. Smith.

TUESDAY (13th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. W. Gordon: The Effects of Violet Infusion on Malignant Growths—an Interim Report.—Dr. H. D. Rolleston and Mr. L. Jones: Primary Malignant Disease of the Vermiform Appendix.—Exhibition of patients and epidiascope demonstration.

MEDICO-LEGAL SOCIETY (22, Albemarle-street, W.).—8.15 P.M. Papers:—Dr. F. S. Toogood: Alcoholism and Irresponsibility.—Dr. A. Wilson: The Medico-legal Aspect of Dual and Disjointed Personality.

WEDNESDAY (14th).—SOCIETY OF ARTS (John-street, Adelphi, W.C.).—8 P.M. Paper:—Mr. C. Johnson: The Horseless Carriage, 1895-1905.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Meeting.

HUNTERIAN SOCIETY (Pagani's Restaurant, Great Portland-street, W.).—6.30 P.M. Hunterian Oration:—Mr. A. H. Tubby: Recent Surgical Methods for the Treatment of Certain Forms of Paralysis. 7.45 P.M. Anniversary Dinner.

THURSDAY (15th).—CHILDHOOD SOCIETY AND THE BRITISH CHILD-STUDY ASSOCIATION (Parkes Museum, Margaret-street, W.).—8 P.M. Lecture:—Dr. R. Milne: Conditions of Children, Physical and Mental, in Resident Schools. (Arranged by the Childhood Society.)

FRIDAY (16th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5.30 P.M. Mr. J. B. Evans: Meningocele (cases and lantern demonstration). Short Papers:—Dr. F. J. Poynton: Jaundice in Infancy.—Dr. E. C. Williams (Bristol): Splenomegalic Biliary Cirrhosis.—Mr. W. G. Nash (Bedford): (1) Alopecia Areata Neurotica; (2) Renal Calculus.—Dr. F. Langmead: Tuberculous Ulceration of Stomach.

EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. C. Childs: A Study of the Typhoid Fever Epidemics in the United States Volunteer Camps in 1898.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin). 5.15 P.M. Lecture:—Prof. Watson Cheyne: On Enteroptosis and Mobility of the Abdominal Organs.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Organic Nervous Affections of Children (with cases).

TUESDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Carr: Clinique. (Medical.) 5.15 P.M. Lecture:—Dr. J. M. H. MacLeod: The Treatment of Ringworm.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. C. Williams: X Rays—Diagnosis and Treatment (illustrated by lantern slides).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. Buzzard: Temporo-sphenoidal Lesions.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Colney Hatch Asylum, New Southgate, N.).—3.30 P.M. Dr. H. Corner: Demonstration on Lunacy Law and Certification.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—5 P.M. Prof. W. Stirling: Food and Nutrition. (Lecture II.)

WEDNESDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. L. Cheat'e: Clinique. (Surgical.) 5.15 P.M. Lecture: Dr. H. Campbell: Observations on Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Ll. Williams: Caries of the Teeth—its Treatment (1) by Filling; (2) by Extraction of the Teeth.

UNIVERSITY COLLEGE HOSPITAL (Gower-street, W.C.).—4 P.M. Clinical Lecture:—Dr. R. Crocker: Varieties of Lichen.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Dr. Abercrombie: Nose.

ROYAL SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—5 P.M. Discussion on Is the Intercepting Trap a Failure (opened by Mr. R. Read and Dr. W. Butler).

THURSDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Lecture:—Dr. P. Horrocks: The Use of Pessaries.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Edwards: Carcinoma of the Rectum. (Lecture I.)

CHARING CROSS HOSPITAL.—4 P.M. Dr. Murray: Demonstration of Medical Cases. (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Lecture:—Dr. Lockyer: Appendicitis and Pregnancy.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M. Dr. M. Dockrell: Syphilis: Pustular and Tubercular (Nodular and Gummatous). (Chesterfield Lecture.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy square, W.).—5 P.M. Lecture:—Dr. H. Barwell: The Treatment of Laryngeal Tuberculosis. (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture:—Mr. Corner: The Surgical Conditions which Result from Improper Feeding.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Clinical Lecture:—Dr. R. M. Leslie: Prognosis in Diseases of the Liver and Pancreas.

MEDICAL OFFICERS OF SCHOOLS' ASSOCIATION (11, Chandos-street, Cavendish square, W.).—3.45 P.M. Discussion on Physical Education in Schools (introduced by Dr. W. P. Herringham and Mr. T. C. Horsfall).

FRIDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Lake: Clinique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. R. J. Reece: Food and Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. F. Buzzard: Myelitis.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—9 P.M. Mr. W. C. D. Whetham: The Passage of Electricity through Liquids.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1905, which was completed with the issue of Dec. 30th, were given in THE LANCET of Jan. 6th, 1906.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1905 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

THE LANCET AT THE RAILWAY BOOKSTALLS.

READERS who usually obtain their copies of THE LANCET at the bookstalls on the Great Western, the London and North Western, and the minor systems in connexion with these railways, are requested to communicate with the Manager, 423, Strand, London, W.C., if they experience any difficulty in getting copies of THE LANCET at these bookstalls, Messrs. W. H. Smith and Son's connexion with them having now terminated.

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Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

During the week marked copies of the following newspapers have been received: *Rotherham Advertiser, Leamington Spa Courier, Yorkshire Post, Herefordshire Mercury, St. Helens News and Advertiser, Western Mail (Cardiff), Westminster Gazette Dublin Weekly Times, Liverpool Post and Mercury, Australasian Medical Gazette, Surrey Advertiser, Literary Digest (New York), Scientific American, Manchester Chronicle, Daily Chronicle, Irish Times, Morning Leader, Daily News, &c.*

Communications, Letters, &c., have been received from—

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